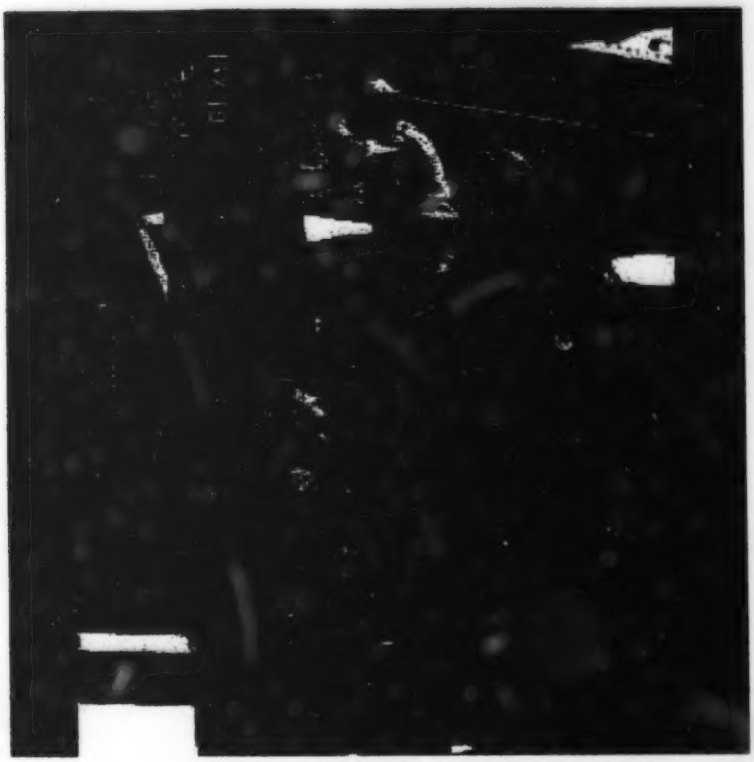
OCCUPATIONAL INJURY AND DISEASE IN ALBERTA

1998 SUMMARY



Lost-Time Claims and Claim Rates

Alberta
HUMAN RESOURCES AND EMPLOYMENT

June 1999

Information Services
Alberta Human Resources and Employment
2nd Floor
10808-99 Avenue
Edmonton, Alberta
T5K 0G5

Phone: (403) 427 - 8531
Fax: (403) 422 - 5070
E-Mail Address:
commshare@lab.gov.ab.ca
Alberta Human Resources and Employment website:
http://www.gov.ab.ca/hre

100-03442/

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Alberta Human Resources and Employment, Information Services. June , 1999

Highlights

In 1998,

- There were 35,926 workplace injuries and diseases serious enough to miss at least one day of work. This translates into one disabling occupational injury and disease every 15 minutes around the clock.

- The lost-time claim rate was 3.3 per 100 person-years worked. This is equivalent to about 16 injuries and diseases per million hours worked. This is the lowest rate ever recorded in the province.

- Small business (those with less than 40 employees) had a lost-time claim rate 3% higher than the overall provincial rate of 3.3 per 100 person-years worked.

- The lost-time claim (LTC) rate decreased in all sectors except Retail and Wholesale Trade Services, and Public Administration, Education and Health Services sectors where it remained at the 1997 level.

- The industry sectors with higher than average lost-time claim rates (all above 3.3) continued to be Manufacturing and Processing; Construction and Construction Trade Services; Transportation, Communication and Utilities; and Agriculture and Forestry

- Young workers (15-24 years), males and inexperienced workers (less than 6 months job tenure) were more likely to lose time from work due to work-related injury or disease.

- Sprains, strains and tears were by far the most common type of lost-time injury with the back being the commonly injured body part.

- The median[1] number of workdays lost due to work-related injury and disease was eight days.

- 105 occupation fatalities were accepted by the WCB-Alberta. Of these, about 32% were incidents of occupational disease, 35% were motor vehicle incidents and 32% were workplace incidents.

Between the years 1993 and 1998,

- There were about 97 fatalities for every million person-years worked

- Fatality rates continued to be higher than average in Agriculture and Forestry; Construction and Construction Trade Services; Transportation, Communication and Utilities; and Mining and Petroleum Development industry sectors.

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[1] Median workdays lost designates the point at which half of the injuries and diseases involved more lost workdays and half involved fewer days.

1. Introduction

Mission of Alberta Human Resources and Employment

The Alberta Government has set a goal to ensure that 'Alberta will have a fair and safe work environment'. The mission of Alberta Human Resources and Employment, in accordance with this goal, is to work in partnership with employers to promote safe and healthy workplaces, a quality working life, and comprehensive safety systems. To this end, Alberta Human Resources and Employment recognizes that monitoring workplace health and safety will help ensure primary concerns are actively managed and resources directed where most needed.

1998 Lost-Time Claim Summary

To provide a comprehensive picture of workplace health and safety, Alberta Human Resources and Employment prepares an annual summary of occupational injury and disease which results in time lost from work. This report includes:

- A descriptive summary of programs and initiatives undertaken by Alberta Human Resources and Employment in pursuit of its mission and goals.
- An estimation of the risk of injury or disease (the lost-time claim rate) in addition to descriptive information regarding the incidents and injured workers.
- Lost-time claim rates at the provincial, major industry sector and industry sub-sector levels.
- Analysis of the lost-time injury and disease claims to provide a broader context for the lost-time injury and disease rate.
- Occupational fatalities accepted by the Workers' Compensation Board-Alberta (WCB) for compensation and fatality rates by major industry sectors.

While this report focuses on 1998 data, corresponding information for 1997 is also provided for comparison.

It is important to note that about two-thirds of all workers employed in Alberta are represented in this report. Most industries are included, but notable exceptions are agriculture and finance. Several professional groups (e.g., teaching and medical professions) are also excluded.
The information presented in this report is based on incidents of injury or disease which occurred during 1998 and were accepted as lost-time incidents by WCB as of March 31, 1999. It does not show statistics on claims that were accepted for medical expense but involved no time lost from work.

Terms, definitions, and formulas used throughout this report are described in Appendix A. Industry codes are presented in Appendix B and selected graphs in Appendix C.

2. Workplace Health and Safety Business Plan Initiatives

Workplace Health and Safety continued to ensure that field compliance and inspection programs focused on specific industry sectors and employers in 1998. These programs focused on

- Significant uncontrolled hazards
- Poor occupational health and safety performance based on lost time claim rate, duration rates and WCB Poor Performance Surcharges
- New employers

Steps were taken to ensure standardization of inspections by field officers throughout the province. A new Client Contact Report was introduced and used for all inspections. If uncontrolled hazards were present at worksites, officers requested voluntary compliance. If compliance was not achieved on follow-up visits, orders were written.

The Partnerships Program worked with stakeholders in Alberta to develop standards which would provide quality for the certification process of employers. A new audit standard was approved in 1998. All audit instruments used in the Partnerships Program must be amended to meet this new standard. Roles were clarified within the program and the distinction of "Certifying Partner" was introduced to identify those partners who carry out quality assurance for the issuance of Certificates of Recognition.

Alberta Human Resources and Employment fosters the identification and management of hazards through the development and provision of quality information. This is accomplished through participation in the development of Canadian Standard Association (CSA) Standards, Codes of Practice, Recommended Practices, Safe Operating Procedures, and Standards and Safety Manuals incorporating hazard identification and control as a strategy to reduce worker injury and illness. Alberta Human Resources and Employment continued to develop information and awareness campaigns to assist employers in the identification and control of hazards, expand relationships with groups such as industry safety associations and include information for clients on the identification and control of hazards through its Internet site.

Alberta Human Resources and Employment is providing leadership and resources to conduct a comprehensive regulatory review and the development of interpretive guidelines and/or enforcement standards. This review process includes consultation with industry and labour before drafting regulations. This clarification will result in the right balance between principles which require regulations to focus on objectives and simplicity, and principles which require regulations to provide enough detail to be useful and enforceable.

3. Alberta Industry Total

In 1998, there were 35,926 workplace injuries and diseases--an increase of 2.6% from 1997--serious enough for a worker to miss at least one day of work. This is about one disabling occupational injury and disease every 15 minutes around the clock. Person-years (an estimate of employment) also rose by 6.6% to 1,103,318.

The 1998 lost-time claim rate (see Appendix A) was 3.3 per 100 person-years worked, a decrease of about 3% from that of 1997 (see Table 3.1). This rate has been calculated from lost-time claims data as of March 31, 1999. The lost-time claim rate always underestimates the risk of occupational injury and disease since some lost-time claims which occurred in 1998 were not administered by March 31, 1999. The lost-time claim rate of 3.3 per 100 person-years worked is the lowest rate ever recorded in the province and translates into about 16 injuries and diseases per million hours worked. Effective partnership among government, business, health and safety organizations, and organized labour to promote health and safety practices contributed to the low lost-time claim rate.

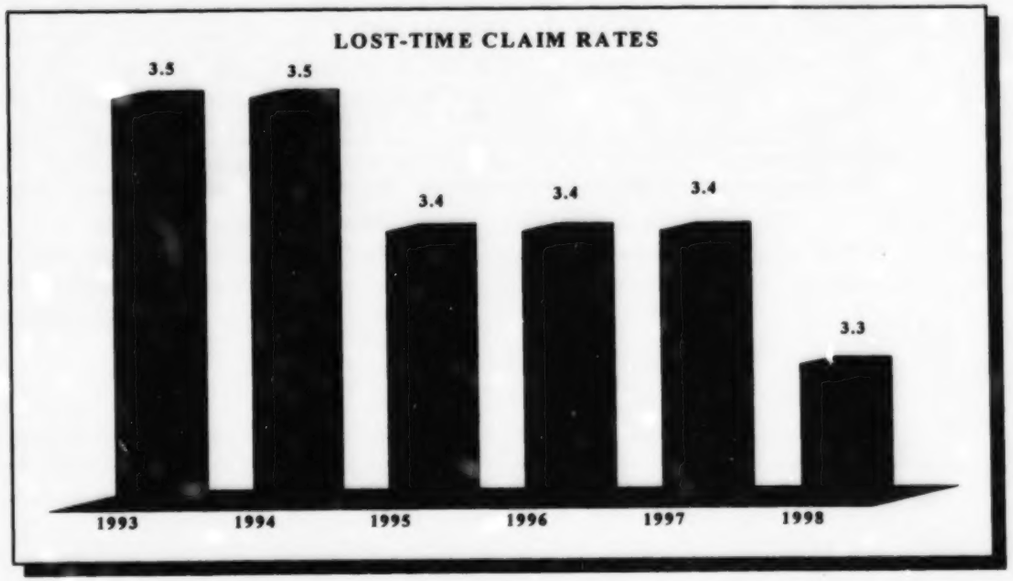
In 1998, small businesses-- those with fewer than 40 employees-- made up about 90% of all Alberta businesses with WCB accounts. These same businesses employed about one-third of Alberta's workforce (in terms of person-years). It is therefore relevant to analyze injuries and disease in these businesses. The 1998 lost-time claim rate for small businesses was about 3% higher than the provincial rate (see Table 3.2). This high rate may be explained by the fact that many of these businesses are concentrated in high hazard industries and/or do not have the resources to deal with all aspects of health and safety at their workplace as do larger businesses.

Another indicator of injury and disease is the duration of disability-- the number of days following injury or disease during which the injured worker is unable to perform work duties. In Alberta, the median[2] days lost from work in 1998 was eight days. A similar distribution was observed in 1997. The duration rate -- the number of work days lost per 100 person-years worked-- indicates, in part, the economic impact of occupational injury and disease. In Alberta, the duration rate of 93 days per 100 person-years worked in 1998 was about 3% higher than in 1997 (see Table 3.1). Duration rates are not normally recommended as reliable indicators of full economic costs since disability days are not updated after March 31 of the year following the year of the claim.

[2] Median workdays lost designates the point at which half of the injuries and diseases involved more lost workdays and half involved fewer days.

Table 3.1
Injury and Disease Statistics[3], Alberta

Indicator	1997	1998	% Change
Estimated Person-Years	1,034,622	1,103,318	6.6
Lost-Time Claims	35,022	35,926	2.6
Lost-Time Claim Rate	3.4	3.3	-2.9
Median Workdays Lost	8	8	0.0
Duration Rate	90	93	3.3



[3] Estimated person-years are calculated from wage and payroll data submitted to the WCB. A lost-time claim occurs when a worker receives wage loss compensation for one or more days after the date of injury. Estimated person-years worked for employers who directly bear the cost of their workers' claim are excluded. *Corrections were made in May 1999 to the estimated person-years for the Public Administration, Education and Health Services sector* Lost-time claims data for these employers are also excluded unless the WCB has incurred administration or enhanced disability cost. Lost-time claims submitted by Government of Alberta employees are excluded unless the duration is more than 80 days.

Table 3.2
Alberta's LTC Rates by Size[4] of Employer: 1998

Size of Employer	# of Accounts	Lost-time Claims	Person-Years	Lost-Time Claim Rate
1 person-year	41,773	851	20,889	4.1
2 to < 5 person-years	32,160	2,371	75,343	3.1
5 to < 10 person-years	9,582	2,100	67,312	3.1
10 to < 20 person-years	6,421	3,000	89,998	3.3
20 to < 40 person-years	3,776	3,681	105,165	3.5
40 to < 100 person-years	2,502	5,859	154,887	3.8
100 or more person-years	1,572	17,754	589,723	3.0
Invalid	5,499	310	0	N/A
Total	103,285	35,926	1,103,318	3.3

[4] Size is measured in terms of estimated person-years.

4. Injury and Disease Analysis

In addition to considering lost-time claim rates at the provincial, sector and sub-sector level, a more detailed analysis of the claims may provide a better understanding of potential hazards in the workplace. This understanding can then lead to more focussed health and safety programs.

Characteristics of the injured workers whose claims resulted in wage compensation, as well as specific details of the occupational injuries and diseases, will be examined[5] including:

- physical characteristics of the injury or disease;
- part of body injured;
- source of the injury or disease;
- type of injury or disease event; and
- duration of disability.

While the focus is at the provincial level, some industry sector information will be highlighted. Throughout this section, the classifications used are based on the Canadian Standards Association (CSA) Standards for categorizing occupational injury and disease information[6].

4.1 Injured Worker Characteristics

Age, gender, job tenure and occupation of the injured worker are of interest when examining injury and disease rates. This information can help determine if workplace health and safety programs need to be targeted to specific groups. For example, younger workers may require a different approach than their older counterparts. Similarly, workers new to a job are likely to have different workplace health and safety needs than those who have worked at a job for a longer period of time.

Age

The majority of lost-time claims (57%) involved individuals between the ages of 25-44 years (see Table 4.1A). Some 21% of claimants were between the ages 15- 24 years (young workers), and another 22% were workers aged 45 years and above. A similar distribution was observed in 1997.

Although most of the claims (57%) involved workers in the 25-44 year group, further analysis showed that the risk[7] of injury declined with age. The risk of injury declined from a high of 3.4 per 100 employed persons for young workers (15-24 years) to a low of 1.6 per 100 employed

[5] More detailed analysis of the pattern among these characteristics and the lost-time claims from 1998 is available from Information Services, Alberta Human Resources and Employment

[6] National standards for categorizing injury and disease and comparable information of other province can be found in the CSA Z795 standard.

[7] The risk of injury is calculated as the ratio of the number of lost-time claims in a category to the total number of persons employed in that category. The total number of persons employed is obtained from Labour Force Survey (LFS). Since the numerator does not originate from the same source as the denominator, readers are advised that the risk of injury as stated can at best be used only as a comparative measure.

persons for workers aged 45 years and above. One explanation for this difference among age groups is that young workers often perform more strenuous work, and are more frequently exposed to more hazardous work situations. In addition, older workers are injured less frequently perhaps due to their greater levels of experience in managing workplace risks.

Although workers age 45 and above are less likely than young workers to be injured seriously enough to lose time at work, when they are injured they require more time to recover before returning to work. The time away from work due to workplace injury or disease more than doubled from a median of six days for young workers to a 13-day median for those 45 years and above. The median days away from work for the 25-44 years group was eight days. Factors that may contribute to longer recuperation periods for workers 45 and above, may include sustaining especially disabling conditions, such as broken bones, more often than young workers do. For example, fractures and dislocation made up 12% of injuries suffered by workers 45 and above, compared to 8% for young workers.

Several sectors were noticeably different from the provincial distribution of lost-time claims by the age of the claimant. While at the provincial level, about 21% of all injured workers were young workers (15-24 years) , only about 8% were young workers in the Public Administration, Education and Health Services sector. Similarly about 31% of injured workers were 45 and above in Public Administration, Education and Health Services sector as compared to 21% at the provincial level.

Table 4.1 A
Age of Injured Worker, Alberta

	1997		1998	
Age	N	%	N	%
15 - 19 Years	2,350	6.7%	2,281	6.3%
20 - 24 Years	5,223	14.9%	5,341	14.9%
25 - 34 Years	10,281	29.4%	10,235	28.5%
35 - 44 Years	9,781	27.9%	10,234	28.5%
45 - 54 Years	5,159	14.7%	5,510	15.3%
55+ Years	2,166	6.2%	2,257	6.3%
Unspecified	62	0.2%	68	0.2%
TOTAL	35,022	100.0%	35,926	100.0%

Gender

Male workers accounted for only 55% of all employed persons in Alberta yet they accounted for a clear majority (72%) of the total lost-time claims (see Table 4.1B). This pattern is historically common in lost-time claim data, and may be explained in part by the fact that men generally comprise a higher proportion of workers in higher hazard industry sectors.

Males accounted for a majority of claims in all sectors except Public Administration, Education and Health Services; and Business, Personal and Professional Services, where between 54% and 59% of total claimants were female. This pattern may be explained by the fact that these sectors include many occupations traditionally held by females, such as nursing and other health-related occupations.
The risk[8] of injury and disease was 3.1 per 100 persons-employed for males as compared to 1.4 per 100 employed persons for females.

Table 4.1 B
Gender of Injured Worker, Alberta

	1997		1998	
Gender	N	%	N	%
Male	25,453	72.7%	25,938	72.2%
Female	8,612	24.6%	9,263	25.8%
Unspecified	957	2.7%	725	2.0%
TOTAL	35,022	100.0%	35,926	100.0%

Job Tenure

Job tenure measures the length of time the injured worker has been employed by his/her current employer before the injury or disease occurred. It gives an indication of the amount of job experience of the injured worker.

The 1998 distribution of lost-time claims according to job tenure indicates that, while about 40% of workers with lost-time claims had worked at their job for a year or more, over 27% had worked at their job for less than six months before being injured (see Table 4.1C). As with age and gender, this distribution has been relatively constant for several years.

It should be noted, however, that for about 23% of all claimants, job tenure was unspecified.

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[8] The risk of injury is calculated as the ratio of the number of lost-time claims in a category to the total number of persons employed in that category. The total number of persons employed is obtained from Labour Force Survey (LFS). Since the numerator does not originate from the same source as the denominator, readers are advised that the risk of injury as stated can at best be used only as a comparative measure.

Thus, caution should be used when examining the percentage distribution and the discussion which follows.

As with age, the risk[9] of injury declined with job tenure. It declined from 3.9 per 100 employed persons for workers who had worked for their current employer for less than 6 months to a low of 1.3 for those that had worked for more than 12 months. Part of the explanation for this difference may lie in the fact that many seasonal or short-term jobs (e.g. in construction or forestry) are also relatively more hazardous. Also, like young workers, new workers are likely to be unfamiliar with many of the tasks required of them and may be unable to evaluate workplace hazards.

Table 4.1 C
Job Tenure of Injured Worker, Alberta

	1997		1998	
Job Tenure	**N**	**%**	**N**	**%**
Less than 1 month	3,142	9.0%	2,941	8.2%
1 month to < 6 months	6,836	19.5%	6,914	19.2%
6 months to < 1 year	3,260	9.3%	3,736	10.4%
1 year or more	13,691	39.1%	14,268	39.7%
Unspecified	8,093	23.1%	8,067	22.5%
TOTAL	35,022	100.0%	35,926	100.0%

Occupation

As with industry sectors, workplace injury and disease vary from occupation to occupation. Occupation is used to describe the kind of work performed by the injured worker irrespective of the kind of industry in which the work is done. In Alberta, the two occupational categories with the most (24%) lost-time claims in 1998 were service and construction occupations (see Table 4.1D). The same distribution was observed in 1997. This pattern may be explained in part by the fact that these are traditionally occupations where young and inexperienced workers are often employed.

[9] The risk of injury is calculated as the ratio of the number of lost-time claims in a category to the total number of persons employed in that category. The total number of persons employed is obtain from Labour Force Survey(LFS). Since the numerator does not originate from the same source as the denominator, readers are advised that the risk of injury as stated can at best be used only as a comparative measure.

Table 4.1 D
Occupation of Injured Worker, Alberta

	1997		1998	
Occupations	**N**	**%**	**N**	**%**
Service	4,376	12.5%	4,508	12.5%
Construction	3,730	10.7%	3,982	11.1%
Transport Operators	3,389	9.7%	3,507	9.8%
Fabricating and Repair	2,920	8.3%	2,985	8.3%
Occupation-NEC	1,931	5.5%	2,593	7.2%
Materials Handling	2,612	7.5%	2,556	7.1%
Professional	2,269	6.5%	2,430	6.8%
Machining	2,105	6.0%	2,217	6.2%
Clerical	1,872	5.3%	2,066	5.8%
Processing	1,494	4.3%	1,615	4.5%
Sales	1,351	3.9%	1,437	4.0%
Mining, Oil and Gas	787	2.2%	668	1.9%
Farming and Fishing	366	1.0%	422	1.2%
Forestry and Logging	183	0.5%	227	0.6%
Managerial, Administrative	149	0.4%	198	0.6%
Unspecified	5,488	15.7%	4,515	12.6%
TOTAL	35,022	100.0%	35,926	100.0%

4.2 Nature of Injury and Disease

This section examines the principal physical characteristics of the injury and disease. This was mainly comprised of sprains, strains and tears; surface wounds; open wounds; and fractures and dislocations-- the four most disabling conditions shown in Table 4.2. These are discussed below from two different perspectives-- gender and event or exposure type.

Males were by far more likely than females to experience all of the four types of severe injuries. However, there were wide variations in their distributions. For example, 68% of all sprains, strains and tears were experienced by males as compared to 32% by females. For fractures and dislocation, 83% were sustained by males as against 17% by females.

The manner in which workers sustain these severe injuries differed, suggesting that remedies to prevent such injuries need to address a variety of circumstances. Close to half of all injuries and diseases were sprains, strains and tears-- a pattern which has traditionally been observed. Most cases of sprains, strains and tears resulted from overexertion while pulling, lifting and carrying objects. Falls and bodily reaction, such as slipping, tripping and running also resulted in a large number of sprains. In contrast, most of the work-related wounds (surface and open) were a result of workers being struck by and/or against objects while the majority of fractures and dislocations were due to falls or workers being struck by objects.

For all industry sectors, sprains, strains and tears were by far the most common injury, although the proportion varied depending on the sector, from a low of 37% in the Agriculture and Forestry sector to a high of nearly 64% in the Public Administration, Education and Health Services sector. The Manufacturing and Processing sector had the largest proportion of wounds (surface and open). Mining and Petroleum Development sector had the most fractures and dislocations.

Table 4.2
Nature of Injury or Disease, Alberta

Nature of Injury/Disease	1997 N	1997 %	1998 N	1998 %
Traumatic Injuries & Diseases	31,777	90.7%	32,727	91.1%
Sprains, strains, tears	*16,086*	*45.9%*	*16,821*	*46.8%*
Surface wounds, bruises	*4,478*	*12.8%*	*4,346*	*12.1%*
Open wounds	*3,944*	*11.3%*	*3,855*	*10.7%*
Fractures & dislocations	*3,754*	*10.7%*	*3,679*	*10.2%*
Burns	*1,047*	*3.0%*	*1,023*	*2.8%*
Other traumatic injuries & diseases	*2,468*	*7.0%*	*3,003*	*8.4%*
Systematic Diseases & Disorders	1,949	5.6%	2,042	5.7%
Nature-Unknown	935	2.7%	837	2.3%
Multiple Diseases & Disorders	211	0.6%	130	0.4%
Symptoms, Sign/ill-defined Conditions	66	0.2%	84	0.2%
Other Diseases & Disorders	55	0.2%	68	0.2%
Infectious & Parasitic Diseases	20	0.1%	26	0.1%
Tumors & Cancers	9	0.0%	12	0.0%
TOTAL	35,022	100.0%	35,926	100.0%

4.3 Part of Body Affected

The part of body variable denotes the part of body directly affected by the injury or disease.

The back was the most commonly injured body part, accounting for about 29% of the total lost-time claims in 1998 (see Table 4.3). Back injuries were mostly sprain, strain and tear injuries affecting the lower back. These injuries often result from overexertion (e.g., lifting, pushing or pulling heavy or odd-shaped objects), or from awkward body movements such as tripping or bending.

Combined hand injuries (wrists, hands and fingers) and combined leg injuries (ankle, feet and leg) account for more injuries (about 20% and 18%, respectively) than any other body part except the back. Combined hand injuries were mostly wounds (open and surface) which were commonly caused by a worker either being caught in or compressed by equipment or being struck by objects. Combined leg injuries were mainly sprains, strain and tears which resulted from falls or from body movement such as tripping and slipping.

In all sectors, the overall provincial distribution was generally observed, with back injuries comprising the majority of the lost-time claims except in Agriculture and Forestry where combined leg injuries were the majority. While accounting for about 17% of injuries at the provincial level, combined leg injuries comprised nearly 23% of injuries in the Agriculture and Forestry sector,--the highest proportion in any sector.

Table 4.3
Part of Body Injured, Alberta

Part of Body Injured	1997 N	1997 %	1998 N	1998 %
Trunk	13,922	39.8%	14,448	40.3%
Back, including spinal cord	*9,804*	*28.0%*	*10,222*	*28.5%*
Other trunk	*4,118*	*11.8%*	*4,226*	*11.8%*
Upper Extremities	9,299	26.5%	9,354	26.0%
Finger(s)	*3,757*	*10.7%*	*3,696*	*10.3%*
Wrist(s) & hand(s)-except finger(s)	*3,362*	*9.6%*	*3,389*	*9.4%*
Other upper extremities	*2,180*	*6.2%*	*2,269*	*6.3%*
Lower Extremities	6,762	19.3%	6,738	18.8%
Leg(s)	*3,098*	*8.8%*	*3,183*	*8.9%*
Ankle(s) & foot(feet)-except toe(s)	*3,078*	*8.8%*	*3,075*	*8.6%*
Other lower extremities	*586*	*1.7%*	*480*	*1.3%*
Head	2,525	7.2%	2,577	7.2%
Eye(s)	*1,276*	*3.6%*	*1,334*	*3.7%*
Other head	*1,249*	*3.6%*	*1,243*	*3.5%*
Multiple Body Parts	1,149	3.3%	1,373	3.8%
Neck, including Throat	1,133	3.2%	1,180	3.3%
Body Systems	170	0.5%	191	0.5%
Part of Body-Unknown	55	0.2%	53	0.1%
Other Body Parts	7	0.0%	12	0.0%
TOTAL	35,022	100.0%	35,926	100.0%

4.4 Source of Injury or Disease

The source of injury or disease classification is used to describe the object or substance which the worker came into contact with and, as a result, produced an injury or disease.

No one source of injury or disease stood out in 1998, although the following three had nearly the same proportion of the total cases. Structures and surfaces, person-injured/ill worker, and parts and materials (see Table 4.4).

Injuries and diseases caused by person-injured/ill worker comprised mostly stress and strains induced by the free movement of the body or its parts. This category includes cases resulting from stretching, reaching, turning, twisting, bending, walking, climbing, running or tripping without falling, but does not include lifting, pulling or pushing of objects.

Another major source of injury and disease was contact with structures and surfaces, such as the floor or the ground. This contact is usually the result of a fall from height or a slip or trip on the same level.

At the industry sector level, there were differences in the principal source of injury or disease. The most common source of injury or disease in the Transportation, Communication and Utilities sector was vehicles. In Construction and Construction Trade Services, Mining and Petroleum Development, and Manufacturing and Processing, the most common source was parts and materials of machines and equipments. Containers accounted for the most injuries in the Retail and Wholesale Trade sector. In the Public Administration, Education and Health Services sector persons other than the injured worker were the most common source of injury. This was likely due to the prevalence of injuries suffered while moving patients in the health industries.

Table 4.4
Source of Injury or Disease, Alberta

	1997		1998	
Primary Source	**N**	**%**	**N**	**%**
Persons, Plants, Animals & Minerals	6,925	19.8%	7,239	20.2%
Person-Injured/ill worker	*4,592*	*13.1%*	*4,693*	*13.1%*
Person-other than injured/ill worker	*1,476*	*4.2%*	*1,632*	*4.5%*
Minerals-Metallic & Nonmetallic	*138*	*0.4%*	*154*	*0.4%*
Other persons, plants, animals & minerals	*719*	*2.1%*	*760*	*2.2%*
Structures and Surfaces	4,703	13.4%	4,943	13.8%
Parts and Materials	4,602	13.1%	4,521	12.6%
Containers	3,489	10.0%	3,788	10.5%
Vehicles	2,601	7.4%	2,584	7.2%
Tools, Instruments & Equipment	2,470	7.1%	2,480	6.9%
Handtools-unpowered	*1,353*	*3.9%*	*1,416*	*3.9%*
Handtools-powered	*434*	*1.2%*	*400*	*1.1%*
Other tools, instruments & equipment	*683*	*2.0%*	*664*	*1.9%*
Machinery	2,165	6.2%	2,197	6.1%
Other Sources	1,425	4.1%	1,443	4.0%
Furniture and Fixtures	1,060	3.0%	1,007	2.8%
Chemicals & Chemical Products	467	1.3%	462	1.3%
Source-Unknown	5,115	14.6%	5,262	14.6%
TOTAL	35,022	100.0%	35,926	100.0%

4.5 Type of Event or Exposure

The type of event is used to describe the incident or event which occurred at the time of exposure that directly resulted in the injury or disease. While no single classification is adequate for injury analysis, the type of event classification comes closest to providing an explanation for the occupational injury or disease. However, it is essential that a direct relationship between all descriptors be maintained in order to permit meaningful analysis and interpretation.

Overexertion comprised the largest type of event for lost-time claims in 1998, making up just over 26% of total claims (see Table 4.5). Overexertion injuries are non-impact injuries in which the injury resulted from excessive physical effort in activities such as lifting, pulling, pushing materials, equipment or objects. This event type most often resulted in injuries to the back.

In 1998, being struck by objects and falls each accounted for about 14% and 15% respectively of total claims. Most cases of being struck by an object resulted in wounds (open and surface) to the hand while most of the total falls resulted in sprains, strains and tears to the leg.

At the industry sector level, overexertion injuries were the most common in all sectors except Agriculture and Forestry, where falls were the most common type of event. While the provincial pattern was generally observed in all other sectors, specific patterns are present in certain sectors. Falls were more common in Construction and Construction Trade Services; and Agriculture and Forestry (about 21%) where as at the provincial level they only account for about 15% of injuries.

Table 4.5
Type of Event or Exposure, Alberta

Event Type	1997 N	1997 %	1998 N	1998 %
Bodily Reaction & Exertion	13,489	38.5%	14,163	39.4%
Overexertion	*8,898*	*25.4%*	*9,444*	*26.3%*
Bodily reaction	*3,690*	*10.5%*	*3,691*	*10.3%*
Repetitive motion	*660*	*1.9%*	*742*	*2.1%*
Other bodily reaction & exertion	*241*	*0.7%*	*286*	*0.8%*
Contact With Objects & Equipment	10,097	28.8%	10,054	28.0%
Struck by object	*5,168*	*14.8%*	*5,104*	*14.2%*
Caught in objects	*2,122*	*6.1%*	*2,058*	*5.7%*
Struck against object	*1,918*	*5.5%*	*2,013*	*5.6%*
Rubbed or abraded	*784*	*2.2%*	*690*	*1.9%*
Other contact with objects & equipment	*105*	*0.3%*	*189*	*0.5%*
Falls	5,395	15.4%	5,544	15.4%
Fall on same level	*2,514*	*7.2%*	*2,740*	*7.6%*
Fall to lower level	*2,272*	*6.5%*	*2,273*	*6.3%*
Other falls	*609*	*1.7%*	*531*	*1.5%*
Exposure to Harmful Substances	1,541	4.4%	1,585	4.4%
Transportation Events	1,534	4.4%	1,580	4.4%
Assaults & Violent Acts	382	1.1%	400	1.1%
Assaults & violent acts by persons	*313*	*0.9%*	*331*	*0.9%*
Other assaults & violent acts	*69*	*0.2%*	*69*	*0.2%*
Fires and Explosions	66	0.2%	83	0.2%
Other Events and Exposures	1	0.0%	1	0.0%
Event Type-Unknown	2,517	7.2%	2,516	7.0%
TOTAL	35,022	100.0%	35,926	100.0%

4.6 Duration of Disability due to Injury or Disease

The duration of disability refers to the length of time, in days, for which the worker receives wage compensation from the WCB. Duration of disability is intended to reflect the severity of the effects of occupational injury and disease as reflected by the number of days off work.

Over half of total lost-time claims in 1998 resulted in fairly short-term (10 or less days lost) work absences, while long-term injuries (51 or more days lost) comprised about 17% of total claims (see Table 4.6).The median days lost from work as a result of work-related injury or disease was eight days for 1998 (see Table 3.1). The number of workdays missed after sustaining a certain type of injury or disease varies widely. For example, over 50% of all sprains, strains and tears resulted in short term work absence while 16% resulted in 51 or more days away from work. In contrast, 24% of all fractures and dislocation resulted in short term work absence while over 40% resulted in 51 or more days away from work.

For the most part, the sectors followed the provincial distribution regarding duration. However Agriculture and Forestry, Mining and Petroleum Development, and Construction and Construction Trade Services all had a higher proportion of long-term claims as compared to the provincial figures. In these three sectors, long-term claims (51 or more days) comprised 25-27% of total claims. Moreover, the median days away from work varied among the sectors. It ranged from a high of 17 days for Agriculture and Forestry to a low of six days for the Manufacturing and Processing sector (see Table 5.0).

Table 4.6
Duration of Disability Due to Injury or Disease, Alberta

	1997		1998	
Disability Days	**N**	**%**	**N**	**%**
1 - 5 Days	13,689	39.1%	13,870	38.6%
6 - 10 Days	5,309	15.2%	5,123	14.3%
11 - 15 Days	2,753	7.9%	2,847	7.9%
15 - 20 Days	1,785	5.1%	1,871	5.2%
21 - 30 Days	2,408	6.9%	2,506	7.0%
31 - 40 Days	1,656	4.7%	1,684	4.7%
41 - 50 Days	1,235	3.5%	1,163	3.2%
51 or more Days	5,258	15.0%	5,911	16.5%
Unspecified	929	2.7%	951	2.6%
TOTAL	35,022	100.0%	35,926	100.0%

5. Industry Sector Summary

The risk of occupational injury and disease varies by industry sector. It is therefore important to consider injury and disease statistics by major industry sector, in order to provide a complete picture of workplace health and safety. A summary of occupation injury and disease statistics by major industry sector is presented in Table 5.0

In the sections that follow, each major sector is described in terms of composition, demographics of the injured workers in the sector, characteristics of their injury and disease and a graph of its historical LTC rate. This information provides a framework for interpreting injury and disease rates across and within sectors.

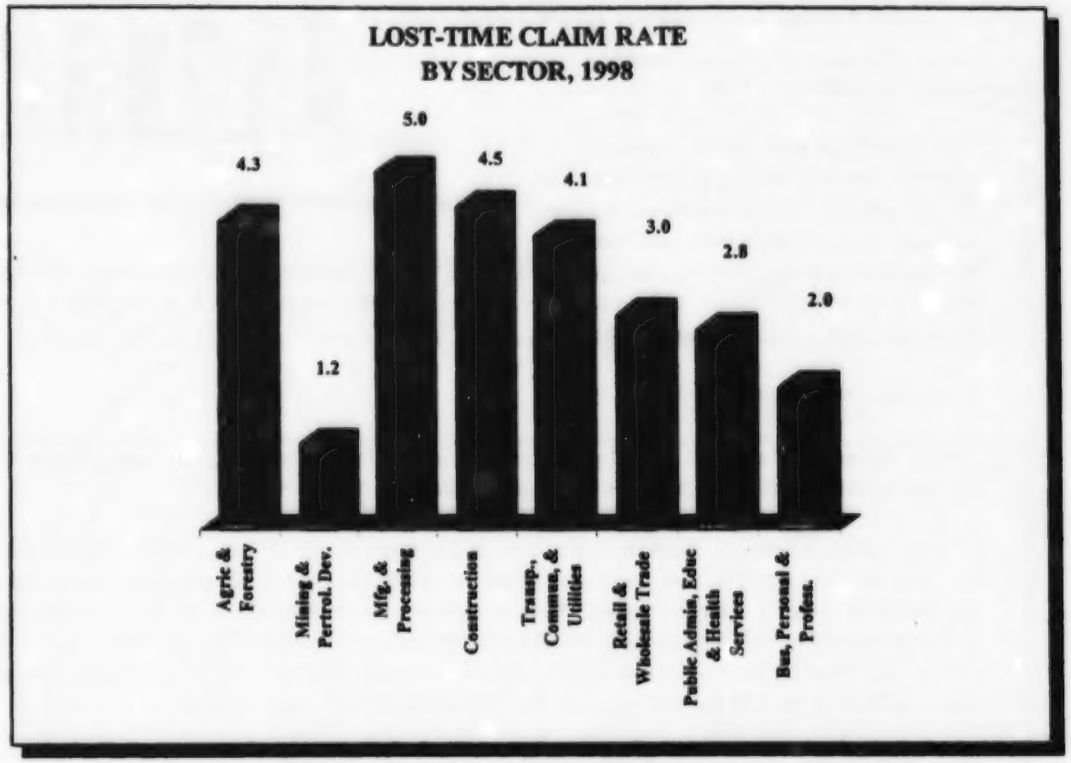
Table 5.0
Injury and Disease Statistics by Sector, Alberta

		1997	1998	% Change
Agriculture & Forestry	Estimated Person-Years	10,173	10,484	3.1%
	Lost-time Claims	471	446	-5.3%
	Lost-time Claim Rate	4.6	4.3	-6.5%
	Median Days Lost	12	17	41.7%
	Duration Rate	187	189	1.1%
Mining & Petroleum Development	Estimated Person-Years	79,915	83,554	4.6%
	Lost-time Claims	1,200	1,009	-15.9%
	Lost-time Claim Rate	1.5	1.2	-20.0%
	Median Days Lost	14	14	0.0%
	Duration Rate	60	53	-11.7%
Manufacturing & Processing	Estimated Person-Years	150,024	156,843	4.5%
	Lost-time Claims	7,732	7,915	2.4%
	Lost-time Claim Rate	5.2	5.0	-3.8%
	Median Days Lost	5	6	20.0%
	Duration Rate	99	112	13.1%
Construction & Construction Trade Services	Estimated Person-Years	127,408	142,899	12.2%
	Lost-time Claims	6,195	6,453	4.2%
	Lost-time Claim Rate	4.9	4.5	-8.2%
	Median Days Lost	14	14	0.0%
	Duration Rate	197	185	-6.1

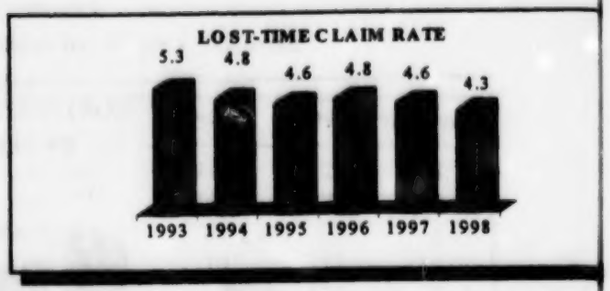
continued....

Table 5.0 (cont.)
Injury and Disease Statistics by Sector, Alberta

		1997	1998	% Change
Transportation, Communication & Utilities	Estimated Person-Years	87,986	95,124	8.1%
	Lost-time Claims	3,889	3,871	-0.5%
	Lost-time Claim Rate	4.4	4.1	-6.8%
	Median Days Lost	10	11	10.0%
	Duration Rate	138	136	-1.4%
Retail & Wholesale Trade Services	Estimated Person-Years	212,800	223,793	2.8%
	Lost-time Claims	6,335	6,768	2.2%
	Lost-time Claim Rate	3.0	3.0	0.0%
	Median Days Lost	7	7	0.0%
	Duration Rate	61	69	11.3%
Public Administration, Education & Health Services	Estimated Person-Years	189,038	194,688	3.0%
	Lost-time Claims	5,282	5,455	3.3%
	Lost-time Claim Rate	2.8	2.8	0.0%
	Median Days Lost	7	7	0.0%
	Duration Rate	64	77	7.8%
Business, Personal & Professional Services	Estimated Person-Years	177,282	195,932	10.5%
	Lost-time Claims	3,740	3,879	3.7%
	Lost-time Claim Rate	2.1	2.0	-4.8%
	Median Days Lost	7	8	14.3%
	Duration Rate	53	53	0.0%



5.1 Agriculture and Forestry



Sector Description

The Agriculture and Forestry sector includes vegetable farms, greenhouses and market gardens, mushroom farms, apiaries, commercial hatcheries, feed lots, custom harvesting and baling, timber management, logging and related woodlands operations including the trucking of logs. Secondary processing, such as sawmills and pulp mills, are included in the Manufacturing and Processing sector.

Injury and Disease Summary

Alberta has one of the world's most productive agricultural economies and accounts for about one quarter of the value of Canada's total agricultural production.

In 1998, estimated person-years in Agriculture and Forestry rose 3.1% from 1997. Despite this increase, the number of person-years may be an underestimation of employment in this sector as agriculture in Alberta is largely exempt from mandatory coverage with the WCB. Very few dairy farms, grain farms, and ranches have WCB coverage for their workers. The number of lost-time injuries and disease, however, decreased by about 5%, resulting in a 7% decrease in the lost-time claim rate to 4.3 per 100 person-years worked from that of 1997 (see Table 5.1).

Most (77%) of the injuries and disease involved males and, although most (54%) of the claimants were aged 25-44 years, over 27% of the lost-time claims involved young workers (15-24 years). In this sector, 45% of the injured workers were new on the job; that is, they had worked for their current employer for less than six months before the injury or disease.

Sprains, strains and tears were the most common injury in this sector. These were caused by either overexertion in lifting objects or by a worker being struck by or against an object. While accounting for about 17% of all injuries and disease at the provincial level, combined leg injuries comprised nearly 23% of all injuries and disease in this sector. Contact with structures and surfaces was the major source of injury in this sector. The median workdays lost due to injuries and disease was 17 days - more than twice the provincial value (see Table 5.0). Although the duration rate for Agriculture and Forestry has declined since 1995, it still remains one of the highest in the province and its 1998 value is about twice the provincial rate.

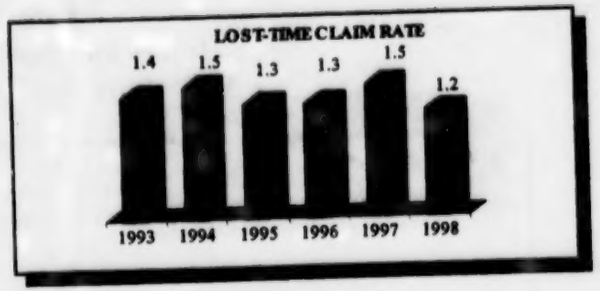
Both sub-sectors had an increase in their estimated person-years and a decrease in the lost-time claims resulting in a decrease in their LTC rate. However, each sub-sector still had a lost-time claim rate larger than the provincial average.

Table 5.1
Injury and Disease Statistics
Agriculture and Forestry, Alberta

Industry Sector		1997	1998	Change
Agriculture & Forestry	Estimated Person-years	10,173	10,484	3.1%
	Lost-Time Claims	471	446	-5.3%
	Lost-Time Claim Rate	4.6	4.3	-6.5%
	Duration Rate	187	189	1.1%

Sub-Sector		1997	1998	Change
Agriculture	Estimated Person-years	4,794	4,920	2.6%
	Lost-Time Claims	230	219	-4.9%
	Lost-Time Claim Rate	4.8	4.5	-6.2%
	Duration Rate	129	159	23.3%
Forestry	Estimated Person-years	5,379	5,564	3.4%
	Lost-Time Claims	241	227	-5.8%
	Lost-Time Claim Rate	4.5	4.1	-8.9%
	Duration Rate	239	227	-5.0%

5.2 Mining and Petroleum Development



Sector Description

The Mining and Petroleum Development sector includes underground mining, open pit mining, mining and processing of oil sands, oil or gas pipeline transmission, and upstream oil and gas industries such as seismic exploration, drilling of wells, well servicing with service rigs, oilfield downhole services and upstream production. Secondary processing activities, such as oil refineries and petrochemical manufacturing, are included in the Manufacturing and Processing sector.

Injury and disease Summary

Long known as Canada's 'Energy Province', Alberta maintains over 60% of national crude oil reserves, 85% of natural gas, 63% of coal reserves and all heavy oil and oil sands reserves. These areas are the mainstays of the Alberta economy.

Estimated person-years in this sector rose by about 5% in 1998. However, the total number of lost-time injury and disease claims decreased by about 16%, resulting in a 20% decrease in the lost-time claim rate from 1.5 per 100 person-years worked to 1.2 per 100 person-years worked (see Table 5.2). While injured workers in this sector had a larger (14) median days away from work due to injury and disease than the provincial average of eight days, the duration rate of 53 days lost per 100 person-years worked was still well below the provincial value of 93 (see Table 5.0).

Like most of the other sectors, a large proportion (94%) of injuries and disease involved males. About 36% of the injured workers had worked for their current employer less than a year before the injury or disease. It should be noted that, in this sector, more than a third of the injured workers did not report their length of service with their current employer. Some 20% of the injured workers were well drillers.

About four out of 10 lost-time claims in this sector were sprains or strains, most often involving the back. Overexertion, and a worker being struck by or against an object were the major events that resulted in most of the lost-time claims. The most common primary source of injury and diseases in this sector were parts of machinery or equipment and building materials.

All of the sub-sectors saw a reduction in their lost-time claim rate, except coal mining, and pipeline cleaning and transmission. The exploration sub-sector's lost-time rate continued its decline since 1994, however, unlike the other years, there was also a reduction in its person-years

estimate in 1998. The exploration, drilling of wells ,and well servicing sub-sectors continued to have high duration rates, approximately two times the provincial figure, while all other sub-sectors were near or below the provincial level.

Table 5.2
Injury and Disease Statistics
Mining and Petroleum Development Sector

Industry Sector		1997	1998	Change
Mining and Petroleum Development	Estimated Person-Years	79,915	83,554	4.6%
	Lost-time Claims	1,200	1,009	-15.9%
	Lost-time Claim Rate	1.5	1.2	-20.0%
	Duration Rate	60	53	-11.7%

continued.....

Table 5.2 (Cont.)
Injury and Disease Statistics
Mining and Petroleum Development Sector

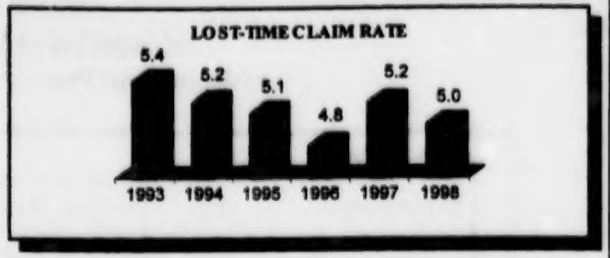
Sub-Sector		1997	1998	Change
Coal Mining	Estimated Person-Years	3,442	3,161	-8.2%
	Lost-time Claims	95	148	55.8%
	Lost-time Claim Rate	2.8	4.7	67.9%
	Duration Rate	69	91	31.9%
Pipeline Cleaning and Transmission	Estimated Person-Years	7,034	8,055	14.5%
	Lost-time Claims	16	26	62.5%
	Lost-time Claim Rate	0.2	0.3	50.0%
	Duration Rate	8	2	-75.0%
Petroleum Producers	Estimated Person-Years	33,765	36,596	8.4%
	Lost-time Claims	100	111	11.0%
	Lost-time Claim Rate	0.3	0.3	0.0%
	Duration Rate	10	8	-20.0%
Mine and Process of Tar Sands and Salt	Estimated Person-Years	6,107	7,005	14.7%
	Lost-time Claims	39	32	-17.9%
	Lost-time Claim Rate	0.6	0.5	-16.7%
	Duration Rate	18	9	-50.0%

continued.....

Table 5.2 (Cont.)
Injury and Disease Statistics
Mining and Petroleum Development Sector

Sub-Sector		1997	1998	Change
Exploration	Estimated Person-Years	2,880	2,711	-5.9%
	Lost-time Claims	122	80	-34.4%
	Lost-time Claim Rate	4.2	3.0	-28.6%
	Duration Rate	205	146	-28.8%
Drilling of Oil and Gas Wells	Estimated Person-Years	6,871	6,077	-11.6%
	Lost-time Claims	289	182	-37.0%
	Lost-time Claim Rate	4.2	3.0	-28.6%
	Duration Rate	204	189	-7.3%
Well Servicing with Service Rigs	Estimated Person-Years	5,055	4,886	-3.3%
	Lost-time Claims	211	158	-25.1%
	Lost-time Claim Rate	4.2	3.2	-23.8%
	Duration Rate	203	190	-6.4%
Oilfield Downhole Services	Estimated Person-Years	12,077	12,156	0.6%
	Lost-time Claims	268	223	-16.8%
	Lost-time Claim Rate	2.2	1.8	-18.2%
	Duration Rate	64	85	32.8%

5.3 Manufacturing and Processing



Sector Description

The Manufacturing and Processing sector includes the following items which are grouped mostly according to the type of material manufactured or processed: meat, hides and pelts; clothing and textiles; food and beverages; wood products; furniture and allied products; printing and publishing; rubber, clay and concrete products; metal foundries and products; and fertilizer, petrochemical and plastic products and crude oil refining.

Injury and Disease Summary

Estimated person-years and total lost-time claims increased in 1998 by 5% and 2% respectively. Since the estimated person-years increased by a larger percentage than the total lost-time claim, this resulted in a reduction the lost-time claim rate by 4% to 5.0 per 100 person-years in 1998 (see Table 5.3). This sector had the lowest (six) median workdays lost due to occupational injury and disease. Its duration rate of 112 per 100 person-years worked was about 18% higher than the provincial value.

Most (63%) of the lost-time claims in this sector involved workers aged 25-44 years. Just over a quarter of the claimants had worked for their current employer for less than six months before the injury or disease. Males accounted for the majority (85%) of the lost-time claims.
Welders or workers in flame-cutting occupation experienced the largest number of injuries and disease in this sector for 1998.

Sprains, strains and tears, which were mostly caused by either overexertion in lifting/pulling objects or by a worker being struck by or against objects were the most common injuries in this sector. Combined hand (made up of hand, wrist and fingers) was the most (26%) commonly injured body part, with the back following at a close second at 24%. The main or primary sources of injury in this sector were parts of machines or materials.

Most of the sub-sector's lost-time claim rates either remained at the 1997 level or decreased. The exceptions were: food and beverage products (+ 3%), furniture and allied products (+ 24%) and foundries- not steel (+5%). Manufacture of fabricated and primary steel products was the largest sub-sector in terms of person-years, comprising nearly 29% of the total for manufacturing and processing. Another large sub-sector is wood products (15% of the total person-years). Although both of these sub-sectors had a decrease in their lost-time claim rates, their 1998 lost-time claim rates were still higher than the sector or provincial rates. The furniture and allied products; fabricated and primary metal products; wood products; meat, hides and pelts products; and food and beverage products sub-sectors had relatively high duration rates in the 120-180 range.

Table 5.3
Injury and Disease Statistics
Manufacturing and Processing Sector

Industry Sector		1997	1998	Change
Manufacturing and Processing	Estimated Person-Years	150,024	156,843	4.5%
	Lost-time Claims	7,732	7,915	2.4%
	Lost-time Claim Rate	5.2	5.0	-3.8%
	Duration Rate	99	112	13.1%

continued....

Table 5.3 (Cont.)
Injury and Disease Statistics
Manufacturing and Processing Sector

Sub-Sector		1997	1998	Change
Meat, Hides and Pelts	Estimated Person-Years	10,217	10,754	5.3%
	Lost-time Claims	797	839	5.3%
	Lost-time Claim Rate	7.8	7.8	0.0%
	Duration Rate	178	157	-11.8%
Clothing and Textile Products	Estimated Person-Years	4,756	4,677	-1.7%
	Lost-time Claims	95	92	-3.2%
	Lost-time Claim Rate	2.0	2.0	0.0%
	Duration Rate	35	52	48.6%
Food and Beverage Products	Estimated Person-Years	13,708	14,411	5.1%
	Lost-time Claims	907	982	8.3%
	Lost-time Claim Rate	6.6	6.8	3.0%
	Duration Rate	140	160	14.3%
Industrial Equipment	Estimated Person-Years	6,711	7,187	7.1%
	Lost-time Claims	220	213	-3.2%
	Lost-time Claim Rate	3.3	3.0	-9.1%
	Duration Rate	54	72	33.3%

continued.....

Table 5.3 (Cont.)
Injury and Disease Statistics
Manufacturing and Processing Sector

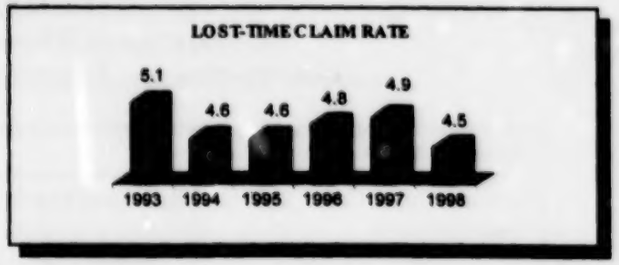
Sub-sector		1997	1998	Change
Wood Products	Estimated Person-Years	22,030	23,653	7.4%
	Lost-time Claims	1,293	1,357	4.9%
	Lost-time Claim Rate	5.9	5.7	-3.4%
	Duration Rate	125	125	0.0%
Furniture and Allied Products	Estimated Person-Years	1,947	1,915	-1.6%
	Lost-time Claims	152	186	22.4%
	Lost-time Claim Rate	7.8	9.7	24.4%
	Duration Rate	172	311	80.8%
Printing and Publishing Products	Estimated Person-Years	11,924	12,187	2.2%
	Lost-time Claims	203	197	-3.0%
	Lost-time Claim Rate	1.7	1.6	-5.9%
	Duration Rate	38	35	-7.9%
Foundry(not Steel), Rubber and Nonmetallic Mineral Products	Estimated Person-Years	6,802	7,467	9.8%
	Lost-time Claims	283	325	14.8%
	Lost-time Claim Rate	4.2	4.4	4.8%
	Duration Rate	111	113	1.8%

continued.....

Table 5.3(Cont.)
Injury and Disease Statistics
Manufacturing and Processing Sector

Sub-sector		1997	1998	Change
Fabricated and Primary Metal(esp. Steel) Products	Estimated Person-Years	43,405	45,419	4.6%
	Lost-time Claims	3,109	3,045	-2.1%
	Lost-time Claim Rate	7.2	6.7	-6.9%
	Duration Rate	118	142	20.3%
Gases, Fertilizers and Petrochemical Products-Refining & Mfg.	Estimated Person-Years	10,675	11,005	3.1%
	Lost-time Claims	64	62	-3.1%
	Lost-time Claim Rate	0.6	0.6	0.0%
	Duration Rate	7	13	85.7%
Plastics Products	Estimated Person-Years	3,941	4,232	7.4%
	Lost-time Claims	225	241	7.1%
	Lost-time Claim Rate	5.7	5.7	0.0%
	Duration Rate	91	123	35.2%

5.4 Construction and Construction Trade Services



Sector Description

The Construction and Construction Trade Services sector include residential construction, industrial construction, road building, industrial labour, and specialized construction trades such as roofing, plumbing, painting, electrical wiring, and bricklaying and masonry.

Injury and Disease Summary

Estimated person-years worked in 1998 increased by 12% (see Table 5.4) from 1997, and was the sector with the largest increase in the province. The total lost-time claims, however, increased by just about 4%, resulting in a decrease in the lost-time claim rate by about 8% from 4.9 to 4.5 per 100 person-years worked (see Table 5.4). Although the sector's duration rate fell by 7%, this sector still had one of the highest duration rates in the province. The sector's 1998 duration rate of 184 days per 100-person-years worked was about twice the provincial average. The median workdays lost of 14 days was also among the highest (see Table 5.0).

In this sector, almost all (95%) of the lost-time claims involved males. 43% of the injured workers in this sector had worked for their current employer for less than 6 months before the injury or disease. The proportion of young workers (15-24years) injured on the job in this sector (24%) was slightly more than the provincial average of 21%. A majority (20%) of the injured workers were construction labourers followed by carpenters at 10%.

The type of event or exposure that resulted in most (23%) of the lost-time claims were either a worker being struck by an object or struck against an object. Overexertion in lifting or pushing objects also resulted in about 21% of the lost-time claims. Sprains, strains and tears were the most common (41%) injury in this sector. The body part that was injured most (28%) was the back followed by combined leg (made up of leg, ankle and foot) with 22%.

All sub-sectors remained the same or reported growth in terms of estimated person-years, especially drywall and residential construction (+21%) and scaffolders (+26%). In spite of this increase, all the sub-sectors saw a decrease in their lost-time claim rate, especially roofing (-17%) and road-builders (-14%). The roofing sub-sector still had one the highest risk of injury or disease, with a LTC rate of 7.8 per 100 person-years worked while the scaffolders sub-sector had the lowest LTC rate of 1.6 in 1998. The sub-sectors all had a higher duration rates than in 1997, except, the scaffolders sub-sector. Especially high duration rates were seen in the masonry (345), roofing(391) and drywall and residential construction (244) sub-sectors.

Table 5.4
Injury and Disease Statistics
Construction and Construction Trade Services

Industry Sectors		1997	1998	% Change
Construction & Construction Trade Services	Estimated Person-Years	127,408	142,899	12.2%
	Lost-time Claims	6,195	6,453	4.2%
	Lost-time Claim Rate	4.9	4.5	-8.2%
	Duration Rate	197	184	-6.6%

continued.....

Table 5.4 (cont.)
Injury and Disease Statistics
Construction and Construction Trade Services

Sub- sectors		1997	1998	% Change
Drywall & Residential Construction	Estimated Person-Years	26,140	31,631	21.0%
	Lost-time Claims	1,544	1,681	8.9%
	Lost-time Claim Rate	5.9	5.3	-10.2%
	Duration Rate	281	244	-13.2%
Glaziers	Estimated Person-Years	5,565	5,565	0.0%
	Lost-time Claims	442	416	-5.9%
	Lost-time Claim Rate	7.9	7.5	-5.1%
	Duration Rate	147	185	25.9%
Industrial Construction	Estimated Person-Years	19,544	22,793	16.6%
	Lost-time Claims	1,102	1,258	14.2%
	Lost-time Claim Rate	5.6	5.5	-1.9%
	Duration Rate	205	216	5.4%

continued...

Table 5.4 (cont.)
Injury and Disease Statistics
Construction and Construction Trade Services

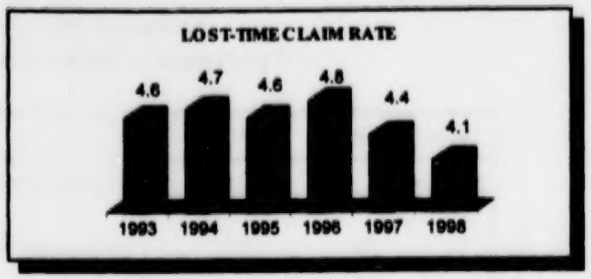
Sub- sectors		1997	1998	% Change
Masonry	Estimated Person-Years	650	761	17.1%
	Lost-time Claims	60	68	13.3%
	Lost-time Claim Rate	9.2	8.9	-3.3%
	Duration Rate	396	345	-12.9%
Mechanical, Electrical & Insulation	Estimated Person-Years	20,937	24,133	15.3%
	Lost-time Claims	807	917	13.6%
	Lost-time Claim Rate	3.9	3.8	-2.6%
	Duration Rate	108	100	-7.4%
Roadbuilders	Estimated Person-Years	24,584	26,410	7.4%
	Lost-time Claims	1,059	988	-6.7%
	Lost-time Claim Rate	4.3	3.7	-14.0%
	Duration Rate	209	201	-3.8%

continued...

Table 5.4(cont.)
Injury and Disease Statistics
Construction and Construction Trade Services

Industry Sectors		1997	1998	% Change
Roofers	Estimated Person-Years	3,343	3,602	7.7%
	Lost-time Claims	313	281	-10.2%
	Lost-time Claim Rate	9.4	7.8	-17.0%
	Duration Rate	539	391	-27.5%
Scaffolders	Estimated Person-Years	1,058	1,336	26.3%
	Lost-time Claims	19	22	15.8%
	Lost-time Claim Rate	1.8	1.6	-11.1%
	Duration Rate	70	76	8.6%

5.5 Transportation, Communication and Utilities



Sector Description

The Transportation, Communication and Utilities sector consists of various modes of transportation (air, rail, truck, bus, taxi cab and limousine services), assorted methods of communication and entertainment (radio, television, movies, live theatre, telecommunications, cable vision), and utilities (electricity, natural gas, and garbage collection, recycling and disposal).

Injury and Disease Summary

Estimated person-years in the Transportation, Communication and Utilities sector increased by 8.1% in 1998 while the total lost-time claims fell by 0.5% resulting in a 6.8% reduction in the lost-time claim rate from 4.4 per 100 person-years in 1997 to 4.1 in 1998 (see Table 5.5). The sector's median workdays lost due to injury and disease of 11 days and a duration rate of 136 days per 100 person-years worked were among the highest in the province, exceeded by only the Agriculture and Forestry, and Construction and Construction Trade Services sectors.

Men and workers age 25-44 years made up a large proportion of the lost-time claims in this sector. About three out of four workers had at least a year of service with their employer when they sustained their injury or disease. Truck drivers led all occupations, accounting for 43% of the total lost-time claims.

Sprains, strains and tears were the leading (52%) nature of injury and disease in this sector. The back was the body part most affected by disabling work incidents. No one source of injury or disease stood out, although, the following three had nearly the same percentage of the total lost-time claims: vehicles (17%), containers (15%) and structures and surfaces including floors (15%). Overexertion while maneuvering objects led all other disabling events or exposures accounting for 25%.

All sub-sectors either had a reduction in their lost-time claim rate or remained at the 1997 level, with the exception of the bus, taxi and limousine services sub-sector that saw an increase of 2% in 1998. Despite a reduction in most of the sub-sectors, higher LTC rates were observed in the trucking services (6.4), and garbage collection, recycling, disposal, and towing vehicles sub-sectors (5.3) than in the sector. Within this sector, trucking services, garbage collection, recycling, disposal, and towing vehicles, and bus, taxi and limousine services had higher duration rates than the provincial average of 93.

Table 5.5
Injury and Disease Statistics
Transportation, Communication & Utilities

Industry Sectors		1997	1998	Change
Transportation, Communication & Utilities	Estimated Person-Years	87,986	95,124	8.1%
	Lost-time Claims	3,889	3,871	-0.5%
	Lost-time Claim Rate	4.4	4.1	-6.8%
	Duration Rate	138	136	-1.4%

Sub-Sectors		1997	1998	Change
Air Services	Estimated Person-Years	8,908	9,938	11.6%
	Lost-time Claims	311	344	10.6%
	Lost-time Claim Rate	3.5	3.5	0.0%
	Duration Rate	83	75	-9.6%
Rail Services	Estimated Person-Years	8,505	9,498	11.7%
	Lost-time Claims	219	192	-12.3%
	Lost-time Claim Rate	2.6	2.0	-23.1%
	Duration Rate	80	66	-17.5%
Trucking Services	Estimated Person-Years	35,477	37,902	6.8%
	Lost-time Claims	2,467	2,443	-1.0%
	Lost-time Claim Rate	7.0	6.4	-8.6%
	Duration Rate	249	251	0.8%

continued..

Table 5.5 (cont.)
Injury and Disease Statistics
Transportation, Communication & Utilities

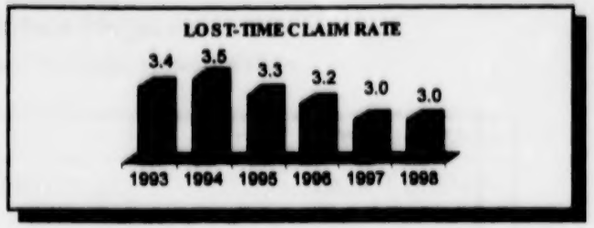
Sub-Sectors		1997	1998	% Change
Bus, Taxi & Limousine Services	Estimated Person-Years	4,490	3,959	-11.8%
	Lost-time Claims	195	174	-10.8%
	Lost-time Claim Rate	4.3	4.4	2.3%
	Duration Rate	116	153	31.9%
Radio, TV, Movies, Live Theater & Ballet	Estimated Person-Years	4,458	4,934	10.7%
	Lost-time Claims	57	54	-5.3%
	Lost-time Claim Rate	1.3	1.1	-15.4%
	Duration Rate	28	30	7.4%
Telecommunications, Closed Circuit TV & Cablevision	Estimated Person-Years	12,326	12,701	3.0%
	Lost-time Claims	126	123	-2.4%
	Lost-time Claim Rate	1.0	1.0	0.0%
	Duration Rate	17	18	5.9%
Utility-Electric	Estimated Person-Years	5,550	7,137	28.6%
	Lost-time Claims	83	69	-16.7%
	Lost-time Claim Rate	1.5	1.0	-33.3%
	Duration Rate	21	12	-42.9%

continued..

Table 5.5(cont.)
Injury and Disease Statistics
Transportation, Communication & Utilities

Sub-Sectors		1997	1998	% Change
Utility-Natural Gas	Estimated Person-Years	3,618	3,292	-9.0%
	Lost-time Claims	45	40	-11.1%
	Lost-time Claim Rate	1.2	1.2	0.0%
	Duration Rate	20	17	-15.0%
Garbage Collection, Recycle, Disposal & Towing Vehicles	Estimated Person-Years	2,741	3,054	11.4%
	Lost-time Claims	203	163	-19.7%
	Lost-time Claim Rate	7.4	5.3	-28.4%
	Duration Rate	199	157	-21.1%

5.6 Retail and Wholesale Trade Services



Sector Description

The Retail and Wholesale Trade Services sector includes wholesale operations, food and beverage stores, department stores, furniture and appliance stores, home improvement centers, the sale and service of automobiles, trailers, industrial and farm equipment, and office and medical equipment.

Injury and Disease Summary

Retail and Wholesale Trade Services is the largest sector in Alberta in terms of person-years. The total lost-time claims and estimated person-years increased by 2.2% and 2.8% respectively in 1998 resulting in no change from the 1997 LTC rate for the sector (see Table 5.6). The median workdays lost of seven days and the duration rate of 69 days per 100 person-years worked were still among the lowest in the province and lower than the provincial averages(see Table 5.0).

Workers age 25-44 years, men, and those that had worked for at least one year with their current employer before the injury or disease made up a large proportion of the total lost-time claims. Commodity sales clerks made up a majority (13%) of the lost-time claimants.

Sprains, strains and tears were the leading (47%) nature of injury. The back was the most common (31%) body part injured. Containers, including boxes and crates were the leading (18%) source of injury or disease, and overexertion in lifting or pushing/pulling objects was the event type or exposure than resulted in most (30%) of the lost-time claims.

The fastest growing area in 1998 was the industrial/farm equipment and products sub-sector, with over 10% growth in person-years. All sub-sectors saw an increase in their LTC rates, with the exception of automobiles, sport vehicles, small engines and trailers sub-sector that saw a 5% reduction. While the LTC rate in most sub-sectors was at or below the sector level, food and beverage stores (5.4) and yards and home improvement centres (5.2) had fairly high lost-time claim rates. The 1998 duration rates in all sub-sectors was at or below the provincial average, except for yards and home improvement centres.

Table 5.6
Injury and Disease Statistics
Retail and Wholesale Trade Services

Industry Sectors		1997	1998	% Change
Retail & Wholesale Trade Services	Estimated Person-Years	217,629	223,793	2.8%
	Lost-time Claims	6,624	6,768	2.2%
	Lost-time Claim Rate	3.0	3.0	0.0%
	Duration Rate	62	69	11.3%

Sub-Sectors		1997	1998	% Change
Wholesale Operations	Estimated Person-Years	21,942	21,711	-1.1%
	Lost-time Claims	429	482	12.4%
	Lost-time Claim Rate	2.0	2.2	10.0%
	Duration Rate	39	58	48.7%
Food & Beverage Stores	Estimated Person-Years	39,809	41,198	3.5%
	Lost-time Claims	2,109	2,236	6.0%
	Lost-time Claim Rate	5.3	5.4	1.9%
	Duration Rate	108	111	2.8%
Industrial, Farm Equipment & Products	Estimated Person-Years	30,847	34,476	11.8%
	Lost-time Claims	812	951	17.1%
	Lost-time Claim Rate	2.6	2.8	7.7%
	Duration Rate	58	73	25.7%

continued...

Table 5.6 (cont.)
Injury and Disease Statistics
Retail and Wholesale Trade Services

Industry Sectors		1997	1998	% Change
Automobiles, Sports Vehicles, Small Engines & Trailers	Estimated Person-Years	36,528	37,946	3.9%
	Lost-time Claims	1,387	1,378	-0.6%
	Lost-time Claim Rate	3.8	3.6	-5.3%
	Duration Rate	79	87	10.1%
Office, Medical & Entertainment Equipment	Estimated Person-Years	14,034	15,009	6.9%
	Lost-time Claims	77	85	9.4%
	Lost-time Claim Rate	0.5	0.6	20.0%
	Duration Rate	9	15	66.7%
Yards & Home Improvement Centres	Estimated Person-Years	7,062	7,799	10.4%
	Lost-time Claims	344	409	22.5%
	Lost-time Claim Rate	4.7	5.2	10.6%
	Duration Rate	86	111	29.1%
Other Retail Services	Estimated Person-Years	62,577	65,654	4.9%
	Lost-time Claims	1,187	1,227	3.4%
	Lost-time Claim Rate	1.9	1.9	0.0%
	Duration Rate	39	41	5.1%

5.7 Public Administration, Education and Health Services

Sector Description

Public administration includes the Government of Alberta and its agencies, and all forms of local government (including cities, towns, villages and municipal districts). Education services include universities, colleges, business schools, driving schools, kindergartens, museums and libraries. Health services include health care centres (hospitals), long term care facilities and home support services.

The composition of this sector was somewhat altered in 1996 as compared with previous years. Business services were reclassified into a new sector, now called *Business, Personal and Professional Services*. At the same time health services were reclassified into this sector from the sector listed in 1995 as *Personal and Health Services* (private health and social services remained in its original sector).

Injury and Disease Summary

Both estimated person-years[10] and total lost-time claims in Public Administration, Education and Health Services increased by about 3% in 1998 resulting in no net change in the lost-time claim rate (see Table 5.7). The 1998 LTC rate of 2.8 per 100 person years was the third lowest sector rate. While the median workdays lost due to injury and disease and the duration rate for this sector were below the provincial figure, *caution should be used when comparing the duration rate in this sector with the duration rates for other sectors*. Due to a special arrangement involving provincial government employees, not all disability days are recorded by the WCB and, therefore, the duration rate for this sector will be underestimated.

This is one of two sectors where the majority (59%) of the lost-time claims involved females. Most (60%) of the injured workers were age 24-44 years. Just over eight out of ten workers had at least a year of service with their employer when they sustained their injury or disease. Nurses and orderlies formed a majority (27%) of the claimants.

This sector had the largest proportion (64%) of sprain and strain injuries than any other sector. The back was the most (37%) common body part injured. About 40% of all the injuries and disease in this sector were caused by overexertion in manoeuvring persons or objects. The main or primary source of injury or disease in this sector was persons other than the injured worker.

[10] Corrections were made to the estimated person-years in May 1999.

Health and social services; health care centerss (hospitals) ; and villages, towns, and cities sub-sectors had the highest LTC rates in the sector, exceeding both the sector and provincial rates. Although the Alberta government public service sub-sector had one of the lowest LTC rate, it was also the sub-sector with the largest increase (+50%) in the LTC rate from 1997.

All sub-sectors--ignoring provincial government services--, had duration rates at or below the provincial rate, with the exception of the health and social services sub-sector.

Table 5.7
Injury and Disease Statistics
Public Administration, Education and Health Services

Industry Sectors		1997	1998	% Change
Public Administration, Education & Health Services	Estimated Person-Years	189,038	194,688	3.0%
	Lost-time Claims	5,282	5,455	3.3%
	Lost-time Claim Rate	2.8	2.8	0.0%
	Duration Rate	64	69	7.8%

Table 5.7(cont.)
Injury and Disease Statistics
Public Administration, Education and Health Services

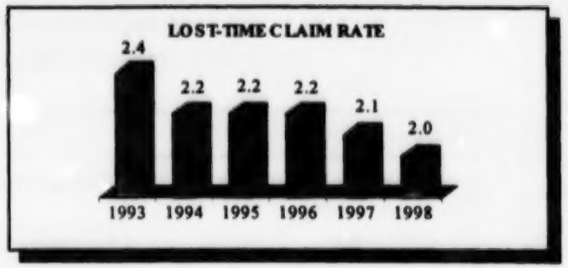
Sub-Sectors		1997	1998	% Change
Alberta Govt. Public Services	Estimated Person-Years	27,634	26,355	-4.6%
	Lost-time Claims	221	305	38.0%
	Lost-time Claim Rate	0.8	1.2	50.0%
	Duration Rate	25	30	20.0%
Health Care Centers (Hospitals)	Estimated Person-Years	41,159	42,697	3.7%
	Lost-time Claims	1,588	1,568	-1.3%
	Lost-time Claim Rate	3.9	3.7	-5.1%
	Duration Rate	89	94	5.6%
Health & Social Services	Estimated Person-Years	29,935	31,767	6.1%
	Lost-time Claims	1,354	1,431	5.7%
	Lost-time Claim Rate	4.5	4.5	0.0%
	Duration Rate	116	138	19.0%

continued...

Table 5.7(cont.)
Injury and Disease Statistics
Public Administration, Education and Health Services

Sub-Sectors		1997	1998	Change
Villages, Towns & Cities	Estimated Person-Years	30,670	29,925	-2.4%
	Lost-time Claims	1,237	1,235	-0.2%
	Lost-time Claim Rate	4.0	4.1	2.5%
	Duration Rate	76	72	-5.3%
Other Public Administration	Estimated Person-Years	6,893	7,124	3.4%
	Lost-time Claims	173	170	-1.7%
	Lost-time Claim Rate	2.5	2.4	-4.0%
	Duration Rate	68	62	-8.8%
Education, Museums & Libraries	Estimated Person-Years	52,747	56,790	7.7%
	Lost-time Claims	709	746	5.2%
	Lost-time Claim Rate	1.3	1.3	0.0%
	Duration Rate	29	30	3.5%

5.8 Business, Personal and Professional Services



Sector Description
Business, Personal and Professional Services sectors includes building and grounds maintenance; financial, real estate and insurance services; office labour services; engineering, architectural and research services; restaurants, motels, hotels and recreation; security services; seniors lodges; and health units, private health and social services and veterinary services.

The composition of this sector was altered somewhat in 1996 as compared with previous years, as Health Services was reclassified into a sector, now called '*Public Administration, Education and Health Services*' (private health and social services remained in this sector). At the same time, business and professional services were brought into this sector from the one listed in 1995 as '*Public Administration, Business and Educational Services*'.

Injury and Disease Summary

Based on person-years, Business, Personal and Professional Services is the second largest sector in Alberta (see Table 5.0), with approximately a 11% increase from 1997. The total lost-time claims rose by only 3.7% in 1998 resulting in about a 5% decrease in the lost-time claim rate from 2.1 per 100 person-years in 1997 to 2.0 (see Table 5.8). The rate of 2.0 was the second lowest among all sectors. The sector's median workdays lost of eight days and a duration rate of 53 days per 100 person-years worked were either near or below the provincial averages.

This sector is only one of two where most (54%) of the lost-time claims involved females. Compared to the other sectors, this sector had the largest proportion (29%) of lost-time claim involving young workers (15-24 years). Some 32% of the claimants had less than 6 months of services with their current employer before their injury or disease. A majority (18%) of the claimants were chefs and cooks.

The restaurant, hotel, and recreation services was the largest sub-sector in 1998, comprising about 48% of total person-years in this sector. The engineering, architectural, designing, and research services sub-sector experienced a substantial increase in person-years (+ 41%). The LTC rates of all sub-sectors were near or below the provincial rate, with the exception of the personal services-maintenance sub-sector. All sub-sectors' duration rates remained near or below the provincial rate, with the exception of personal services-maintenance.

Table 5.8
Injury and Disease Statistics
Business, Personal and Professional Services

Industry Sectors		1997	1998	% Change
Business, Personal & Professional Services	Estimated Person-Years	177,282	195,932	10.5%
	Lost-time Claims	3,740	3,879	3.7%
	Lost-time Claim Rate	2.1	2.0	-4.8%
	Duration Rate	53	53	0.0%

continued....

Table 5.8 (cont.)
Injury and Disease Statistics
Business, Personal and Professional Services

Sub- Sectors		1997	1998	% Change
Health Units, Veterinary Services, Private Health & Social Services	Estimated Person-Years	12,931	14,516	12.3%
	Lost-time Claims	243	285	17.3%
	Lost-time Claim Rate	1.9	2.0	5.3%
	Duration Rate	47	58	23.4%
Building & Grounds Maintenance	Estimated Person-Years	11,391	11,986	5.2%
	Lost-time Claims	244	244	0.0%
	Lost-time Claim Rate	2.1	2.0	-4.8%
	Duration Rate	64	49	-23.4%
Personal Services-Maintenance	Estimated Person-Years	9,215	10,774	16.9%
	Lost-time Claims	365	372	1.9%
	Lost-time Claim Rate	4.0	3.5	-12.5%
	Duration Rate	164	129	-21.3%

continued...

Table 5.8(cont.)
Injury and Disease Statistics
Business, Personal and Professional Services

Sub-Sectors		1997	1998	% Change
Engineering, Architectural, Designing & Research Services	Estimated Person-Years	17,046	23,968	40.6%
	Lost-time Claims	64	85	32.8%
	Lost-time Claim Rate	0.4	0.4	0.0%
	Duration Rate	9	9	0.0%
Restaurants, Hotels & Recreation Services	Estimated Person-Years	88,216	93,474	6.0%
	Lost-time Claims	2,426	2,398	-1.2%
	Lost-time Claim Rate	2.8	2.6	-7.1%
	Duration Rate	60	63	5.0%
Other Personal Services	Estimated Person-Years	9,466	9,921	4.8%
	Lost-time Claims	143	154	7.7%
	Lost-time Claim Rate	1.5	1.6	6.7%
	Duration Rate	40	46	15.0%

6. WCB Accepted Occupational Fatalities

A WCB accepted occupational fatality is defined as the death of a worker resulting from a work-related incident or exposure and which has been accepted by the WCB for compensation. Fatalities accepted in a particular year does not mean all of them occurred in that year.This section provides a description of the occupational fatalities as well as the provincial fatality rates and rates in the major industry sectors.

6.1 Description of Fatalities Accepted by the WCB

In 1998, the WCB-Alberta accepted 105 occupational fatalities for compensation, a decrease of about 13% from that of 1997. This is the second highest number of fatalities accepted over the last five years. Of these 105 fatalities accepted, 34 were occupational diseases which usually result from incidents or exposures from prior years (see Table 6.1).

Alberta Human Resources and Employment classifies occupational fatalities into three general event types:

- motor vehicle incidents;
- workplace incidents; and
- occupational disease.

Each of the types is described in more detail below.

Motor Vehicle Incidents

Motor vehicle incidents typically involve non-industrial vehicles operating on public roads in which the fatally injured worker was either the driver or a passenger. This category also include fatalities involving air plane crashes, train crashes, and helicopter crashes. About 35% of the fatalities accepted in 1998 were motor vehicle incidents, a decrease of about 6% from 1997 (see Table 6.1).

Workplace Incidents

Fatal workplace incidents consists of cases in which the worker dies at a work site or as a result of injuries sustained at a work site. This is the type of fatality that Alberta Human Resources and Employment typically investigates. The proportion of workplace incidents increased slightly to 32% in 1998 after decreasing to 31% in 1997 (see Table 6.1).

Occupational Disease

Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related (e.g. asbestosis, black lung disease). This category also includes heart attacks suffered on the job. Occupational diseases are frequently diagnosed many years after the initial or crucial exposure to the toxic substance, and in such cases it is very difficult to determine when the fatal exposure occurred. *The occupational disease category, therefore, should not be interpreted to reflect present work site hazardous conditions or exposures.*

The most frequent occupational disease fatalities accepted by the WCB in recent years concern exposure to asbestos fibres. In 1998, 32% of the total fatalities accepted resulted from occupational disease (see Table 6.1).

Table 6.1
Description of Fatalities Accepted
By the Workers' Compensation Board
Alberta, 1993 to 1998

	Motor Vehicle		Workplace Incident		Occupational Disease		Total	
Year	N	%	N	%	N	%	N	%
1993	28	36.4	30	39	19	24.7	77	100
1994	30	40.5	28	37.8	16	21.6	74	100
1995	42	45.2	29	31.2	22	23.7	93	100
1996	33	36.3	34	37.4	24	26.4	91	100
1997	49	40.8	37	30.8	34	28.3	120	100
1998	37	35.2	34	32.4	34	32.4	105	100
TOTAL	219	39.1	192	34.3	149	26.6	560	100

6.2 Occupational Fatality Rates In Industry Sectors

The estimated occupational fatality rate for the province in 1998 was 95 deaths per million person-years worked.(see Table 6.2A), a 16% decrease from 1997. *It should be noted that, unlike the LTC rate, the fatality rate is not a reliable indicator of the present risk of work-related injury and disease since conditions that resulted in the exposure or disease may not be present now.*

Like injury rate, fatality rate varies across industry sectors due to the different types of work activity performed in the various sectors. To reduce year-to-year variations, the period 1993 to 1998 was used to calculate the fatality rates for a sector by dividing the total number of accepted fatalities in a sector for the period 1993 to 1998 by the total number of person-years worked during that period. The fatality rate for the period considered was greatest in the Agriculture and Forestry sector with an estimated rate of 256 per million person-years worked that is about three times the provincial rate for the same period. Construction and Construction Trade Services; Transportation, Communication and Utilities; and Mining and Petroleum Development sectors all had high risk of occupational fatality. Fatality rates were lower than the provincial rate in the relatively less hazardous industry sectors of Public Administration, Education and Health Services; Retail and Wholesale Trade Services; Business, Personal and Professional Services; and Manufacturing and Processing sector (see Table 6.2B)

Caution should be used in considering the fatality rate for Agriculture and Forestry since most of the industries in this sector do not have workers' compensation, resulting in the underestimation of the person-years worked and accepted fatalities. The high fatality rate may imply the sector is more hazardous, when in fact it may not be. The fatality rates reported may be more reliable for sectors where most of the industries have Workers' Compensation Board coverage.

Table 6.2A
Occupational Fatality Rate[11] By Year
Alberta, 1993 to 1998

Year	Accepted Fatalities	Estimated Fatality Rate
1993	77	89
1994	74	82
1995	93	102
1996	91	95
1997	120	115
1998	105	95
TOTAL	560	97

[11] Fatality rate is expressed as fatalities per million person-years worked. Estimates are based upon information provided by Alberta WCB. Fatalities occurring under Government of Canada jurisdiction are excluded from the calculation of fatality rate.

Table 6.2B
Occupational Fatality Rate[12] By Industry Sector
Alberta, 1993 to 1998

Industry Sector	Total Fatalities (1993-1998)	Estimated Fatality Rate
Agriculture and Forestry	14	256
Mining and Petroleum Development	81	176
Manufacturing and Processing	64	80
Construction and Construction Trade Services	157	244
Transportation, Communication and Utilities	112	235
Retail and Wholesale Trade Services	37	31
Public Administration, Education and Health Services	37	32
Business, Personal and Professional Services	22	22
Unspecified	36	N/A
TOTAL	560	97

[12] Fatality rate is expressed as fatalities per million person-years worked. Estimates are based upon information provided by Alberta WCB. Fatalities occurring under Government of Canada jurisdiction are excluded from the calculation of fatality rate.

Directions for the Future

The guiding vision for Workplace Health and Safety's vision which has three key components:

- A Partnerships framework that will be effective in promoting the development of health and safety management systems at work sites.
- A regulatory framework that focuses on clearly stated, practical and enforceable regulation, consistent with the criteria established by the government's Regulatory Reform Task Force.
- A compliance and enforcement policy that defines our role as government to be responsible for achieving regulatory compliance through inspection and investigation processes.

Workplace Health and Safety's operational plan has identified three goals for the coming year:

- *Alberta Human Resources and Employment will work with industry Partners to encourage employers and workers to build effective health and safety management systems.*
- *Alberta Human Resources and Employment will provide effective compliance programs targeting poor health and safety performers and uncontrolled hazards.*
- *Alberta Human Resources and Employment will work with external organizations to develop standards for identifying and controlling hazards, codes of practice, safe operating procedures and to communicate health and safety information.*

Alberta Human Resources and Employment will continue to promote and address occupational health and safety as an important issue in the workplace. Our key goals will help to establish effective programs as the standard for doing business in Alberta. The results will be healthier and safer workplaces, an improved quality of life and more productive and competitive businesses in Alberta.

References

Alberta Economic Development: *The Alberta Advantage in Action. Highlights of the Alberta Economy, May 1998*

Statistics Canada: *Labour Force Survey, 1998*

APPENDIX A
TERMS, DEFINITION AND FORMULAS

Appendix A: Terms, Definitions, and Formulas

Lost-Time Claim

A lost-time claim (LTC) is a claim for an occupational injury or disease which disables the worker beyond the day of injury. Included are claims for which wages compensation are paid, permanent disability claims, fatalities, and cases in which the injured worker is assigned light duties or other modified work.

Person-Years

Person-year estimates are calculated from wage and payroll data provided by account holders to the WCB. Alberta Human Resources and Employment uses these data to estimate an average industry wage, and uses the average industry wage and employer payroll data to estimate person-years for each employer and each industry. One person-year i.e. equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.

LTC Rate

The lost-time claim (LTC) rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The LTC rate represents the probability or risk of disabling injury or disease to a worker during a period of one year's work. Comparisons of LTC rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.

$$\text{LTC Rate} = \frac{\text{Number of LTCs X 100}}{\text{Estimated Person-years}}$$

Duration (Days Lost)

The duration of disability is the number of days following the injury or disease for which the worker was disabled, and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from WCB. Alberta Human Resources and Employment obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease.

Duration Rate

The duration rate is calculated by dividing the number of work days lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as "days lost per 100 person-years worked", and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.

$$\text{Duration Rate} = \frac{\text{Disability Days X 100}}{\text{Estimated Person-Years}}$$

Industry Coverage

This report includes all industry activity in Alberta covered by the Alberta WCB for occupational injury and disease to workers. Most industry sector are included but notable exceptions include agriculture and finance. Several professional groups (e.g. the teaching and medical professions) are also excluded. The Government of Canada is excluded except where the WCB pays administration or enhanced disability cost. Claims from the Government of Alberta employees are only included if the duration is longer than 80 days. About 75% of employed persons in Alberta are represented in this report.

WCB Accepted Fatality

An occupational fatality is the death of a worker which result from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.

Fatality Rate

The fatality rate is calculated by dividing the number of accepted fatalities by the person-year estimate and multiplying the result by one million. The result is expressed as "fatalities per million person-years worked". Government of Canada fatalities are excluded before the calculation of the fatality rate.

$$\text{Fatality Rate} = \frac{\text{Number of fatalities X 1,000,000}}{\text{Estimated Person-years}}$$

NEC

Means "Not Elsewhere Classified"

UNS

Means "Unspecified"

APPENDIX B
INDUSTRY SECTOR CODES

Appendix B: - 1998 Sector Codes[13]

1. Agriculture & Forestry

Industry Codes: 01100, 01300, 01700, 01900, 01901, 01903, 02102, 02109, 02110, 03100, 03902, 04100, 60201, 62908, 85902

Sub-sector Codes:

Sub-sector	Industry
Agriculture	01100, 01300, 01501, 01700, 01900, 01901, 01903, 02102, 02109, 02110, 04100, 60201, 62908, 85902
Forestry	03100, 03902

2. Mining & Petroleum Development

Industry Codes: 06100, 06110, 06111, 06300, 06305, 06501, 06600, 06601, 07700, 09200, 09201, 09600, 09903, 09911, 09915, 09921, 51500. 51501, 73702

Sub-sector Codes:

Sub-sector	Industry
Coal Mining	06100, 06110, 06111
Pipeline Cleaning and Transmission	51500, 51501
Petroleum Producers	06300
Mine/Process Tar Sands & Salt	06600, 07700
Exploration	09200, 09201
Drilling of Wells	09600
Well Servicing with Service Rigs	09903
Oilfield Downhole Services	09911

[13] Codes are Workers' Compensation Board industry codes

3 Manufacturing & Processing

Industry Codes: 01103, 02101, 02112, 07900, 08701, 10100, 10104, 10500, 11202, 12301, 12304, 12400, 12900, 13100, 13101, 13300, 13500, 13900, 13904, 13905, 14100, 14300, 14500, 16900, 16901, 16902, 17200, 17900, 17901, 21300, 22101, 22900, 22901, 24900, 25100, 25401, 25900, 25901, 26101, 26104, 26401, 27102, 27103, 27200, 27300, 27402, 28600, 28603, 28800, 28900, 29100, 29102, 29200, 29600, 29700, 30100, 30101, 30403, 30407, 30412, 30700, 30801, 33500, 33602, 33606, 33900, 33902, 34100, 34101, 34300, 34500, 34700, 34702, 34800, 35200, 35401, 36500, 37201, 37301, 37402, 37801, 37805, 38100, 38200, 38201, 38500, 39300 39701, 39901, 62304, 62500, 69903, 86201, 86202, 89301, 89401, 89916

Sub-sector Codes:

Sub-sector	Industry
Meat, Hides, and Pelt Products	01103, 10100, 10104, 17200
Clothing and Textile Products	17900, 21300, 22900, 22901, 24900
Food and Beverage Products	02101, 02112, 10500, 11202, 12301, 12400, 12900, 13100, 13101, 13300, 13500, 13900, 13904, 13905, 14100, 14300, 14500, 37402
Wood Products	25100, 25401, 25900, 25901, 27102, 27103
Furniture and Allied Products	26101, 26104
Printing and Publishing Products	27402, 28600, 28800, 28900, 86202, 89301
Foundries(not Steel), Rubber, and Nonmetallic Products	08701, 16901, 27200, 34100, 34101, 34300, 34500, 35200, 35401, 29700, 34700, 34702, 38500, 34800
Fabricated and Primary Metal (esp. Steel) Products	29102, 29100, 29200, 26401, 30100, 30101, 30407, 33606, 89401, 30412, 30700, 33602, 30403, 30801, 62500
Industrial Equipment	16902, 38100, 62304
Gases, Fertilizer, and Petrochemical- Refining & Mfg,	36500, 37201, 37801, 37805
Plastic Products	37301

4. Construction & Construction Trade Services

Industry Codes: 01904, 01905, 02100, 02103, 02105, 02200, 06304, 06306, 09902, 09904, 09927, 30302, 31501, 31507, 31508, 35301, 40400, 40401, 40602, 40604, 40901, 40905, 40907, 42102, 42103, 42104, 42105, 42106, 42109, 42110, 42111, 42113, 42115, 42117, 42118, 42120, 42121, 42122, 42124, 42125, 42127, 42128, 42129, 42130, 42131, 42133, 42135, 42136, 42139, 42141, 42144, 42150, 42151, 42156, 42158, 42159, 42160, 42161, 42175, 42184, 51502, 51503, 51504, 51506, 62700, 86401, 86413, 86911, 86922, 89600, 89605, 89928

Sub-sector Codes:

Sub-sector	Industry
Drywall/Residential Construction	02100, 40401, 42111, 42113, 42115, 42125, 42133, 42135, 42136, 42141
Glaziers	30302, 42121
Industrial Construction	40400, 42104, 42105, 42106, 42109, 42120, 42127, 42156, 42159, 42161, 51504, 86911, 89401, 89605
Masonry	42102
Mechanical, Electrical and Insulation	31508, 42110, 42117, 42122, 42124, 42144, 42184, 89600
Roadbuilders	40602, 40604, 40905,42103
Roofers	42118, 42139, 42151
Scaffolders	89928

5. Transportation, Communication & Utilities

Industry Codes: 27400, 42155, 50100, 50104, 50105, 50106, 50107, 50200, 50201, 50203, 50607, 50701, 50714, 50720, 50800, 50801, 50802, 51200, 51705, 52700, 54300, 54301, 54501, 57200, 57400, 57901, 65402, 85100, 85907, 85914, 85918, 85934

Sub-sector Codes:

Sub-sector	Industry
Transportation Sub-sectors ...	
Air Services	50100, 50104, 50105, 50106, 50107, 50200, 50201, 50203
Rail Services	50607
Trucking Services	42155, 50701, 50714, 50720
Bus, Taxi, and Limousine Services	50800, 50801, 50802, 51200
Communications/Entertainment Sub-sectors...	
Radio, TV, Movies Live Theatre and Ballet	54300, 85100, 85907, 85914, 85918, 85934
Telecommunication, Closed Circuit TV, and Cable Vision	54501, 54301
Utilities Sub-sectors...	
Utilities-Electric	57200
Utilities-Natural Gas	57400
Garbage Collection, Recycle, Disposal and Towing Services	27400, 57901, 65402

6. Retail & Wholesale Services

Industry Codes: 16300, 25403, 33901, 37902, 52400, 60800, 62200, 62201, 62300, 62302, 62303, 62701, 62900, 62903, 63100, 63103, 63105, 64200, 65400, 65406, 65600, 65800, 65808, 65809, 66300, 66900, 67300, 67601, 67602, 67604, 67802, 68100, 69100, 69200, 69300, 69301, 69500, 69901, 69904, 69906, 69912, 69914, 69915, 69916, 86905, 86909, 89100, 89908, 89910, 89922

Sub-sector Codes:

Sub-sector	Industry
Wholesale Operations	62900
Food and Beverage Stores	63100, 63103, 63105, 65406, 69916
Industrial and Farm Equipment and Products	52400, 60800, 62200, 62201, 62302, 62303, 69300, 89910, 86905, 37902
Automobiles, Sport Vehicles, Small engines, and Trailers	16300, 62701, 65400, 69906, 69912, 69915, 89922, 65600, 65800, 65808, 65809
Office, Medical, and Entertainment Equipment	33901, 62300, 67602
Yard and Home Improvement Centres	25403, 69301
Other Retail Services	62903, 66300, 66900, 68100, 69100, 69500, 69904, 89100, 64200, 67300, 67601, 67604, 67802, 69200, 69901, 69914, 86909, 89908

7. Public Administration, Education & Health Services

Industry Codes: 36502, 57601, 57602, 80102, 80103, 80105, 80106, 80301, 80302, 80305, 80311, 80500, 80700, 80701, 82100, 82704, 82710, 82712, 82801, 82806, 82808, 82812, 85909, 86927, 86930, 89923, 89925, 93200, 93201, 93202, 95100, 95101, 95102, 95104, 95105, 95108

Sub-sector Codes:

Sub-sector	Industry
Public Administration Sub-sector...	
Alberta Govt Public Services	93200, 93201, 93202
Villages, Towns, and Cities	95100, 95101, 95104
Other Public Administration	36502, 57601, 57602, 82712, 86930, 95102, 95105, 95108
Education Services Sub-sectors...	
Education, Museums, and Libraries	80102, 80103, 80105, 80106, 80301, 80302, 80305, 80311, 80500, 80700, 80701, 86927, 89923
Health Services Sub-sectors...	
Health Care Centres(Hospitals)	82100
Health and Social Services	82704, 82710, 82801, 82806, 82808, 82812, 85909, 89925

8. Business, Personal & Professional Services

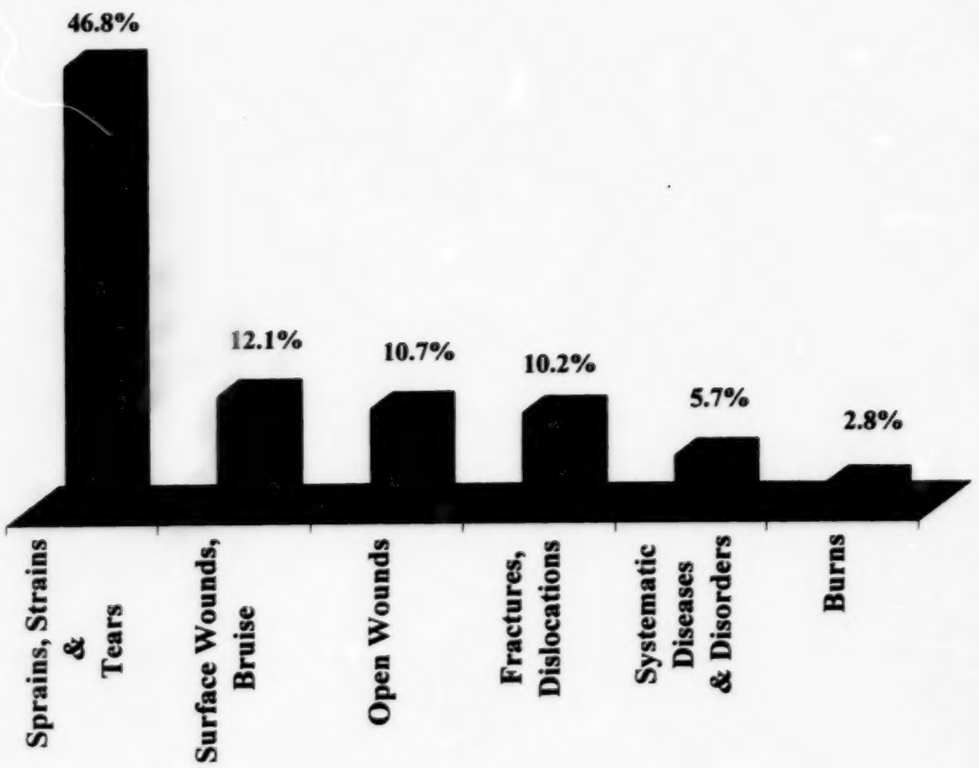
Industry Codes: 02104, 02116, 02117, 09900, 37401, 38101, 38102, 51701, 51902, 52705, 62904, 70200, 73500, 73501, 80703, 82500, 82700, 82701, 82703, 82705, 82800, 83100, 85300, 85900, 85901, 85904, 85916, 85919, 85922, 85925, 86200, 86400, 86403, 86405, 86408, 86409, 86410, 86411, 86414, 86600, 86901, 86902, 86906, 86907, 86913, 86918, 86920, 86921, 86923, 87200, 87300, 87301, 87400, 87401, 87402, 87500, 87501, 87502, 87503, 87505, 87508, 87510, 87600, 87603, 87700, 87900, 89101, 89104, 89701, 89702, 89703, 89704, 89705, 89901, 89902, 89907, 89913, 89924, 89927, 93109, 93113

Sub-sector Codes:

Sub-sector	Industry
Business Services Sub-sectors...	
Building and Ground Maintenance	87500, 87510, 89702
Engineering, Architectural, Designing and Research Services	09900, 86400, 86403, 86405, 86408, 86409, 86410, 86411, 86414, 86913, 86923, 89927
Personal Services Sub-sectors...	
Personal Services-Maintenance	87300, 87301, 89701, 89703, 89704, 89705
Restaurant, Hotel, and Recreation Services	51902, 85900, 85904, 87501, 87502,87503, 87600, 87603, 51701, 80703, 85300, 85901, 85916, 85919, 85922, 85929, 87508, 89901, 89907
Other Personal Services	87200, 87400, 87401, 87402, 83100, 87700, 87900
Professional Services Sub-sectors...	
Health Units, Veterinary and Private Health and Social Services	02104, 37401, 38101, 38102, 82500, 82700, 82701, 82703, 82705, 82800, 02116, 02117

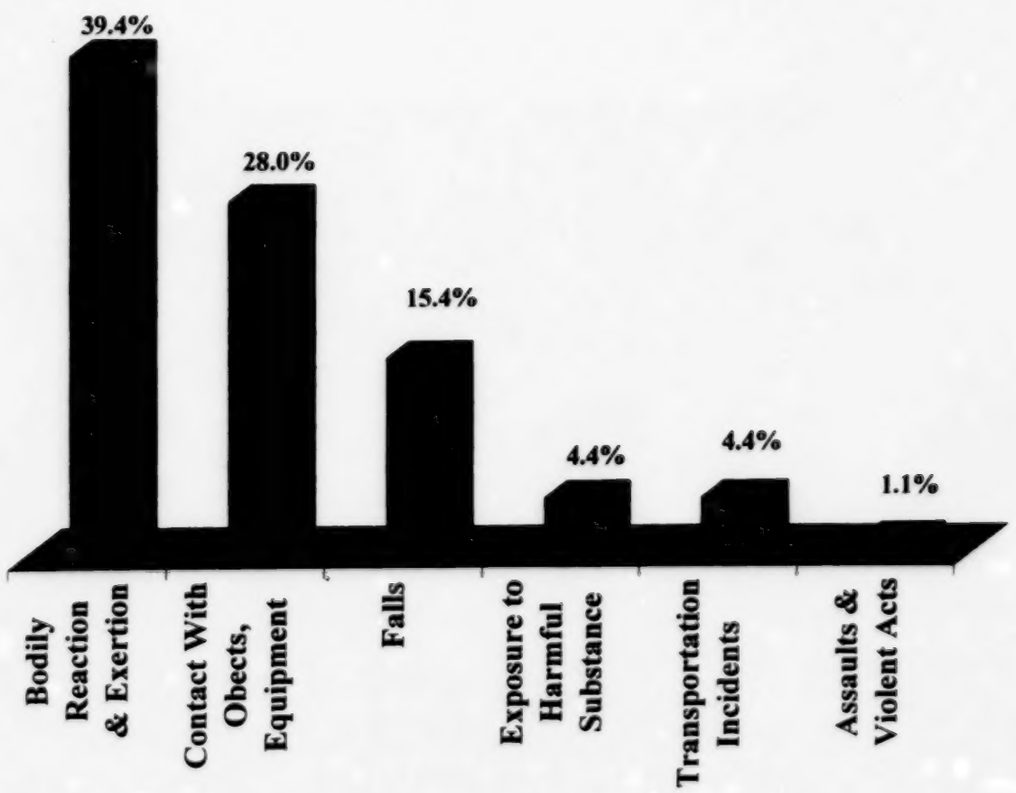
APPENDIX C
SELECTED GRAPHS

LOST-TIME CLAIMS BY COMMON PHYSICAL CHARACTERISTICS OF INJURED WORKER
Alberta, 1998



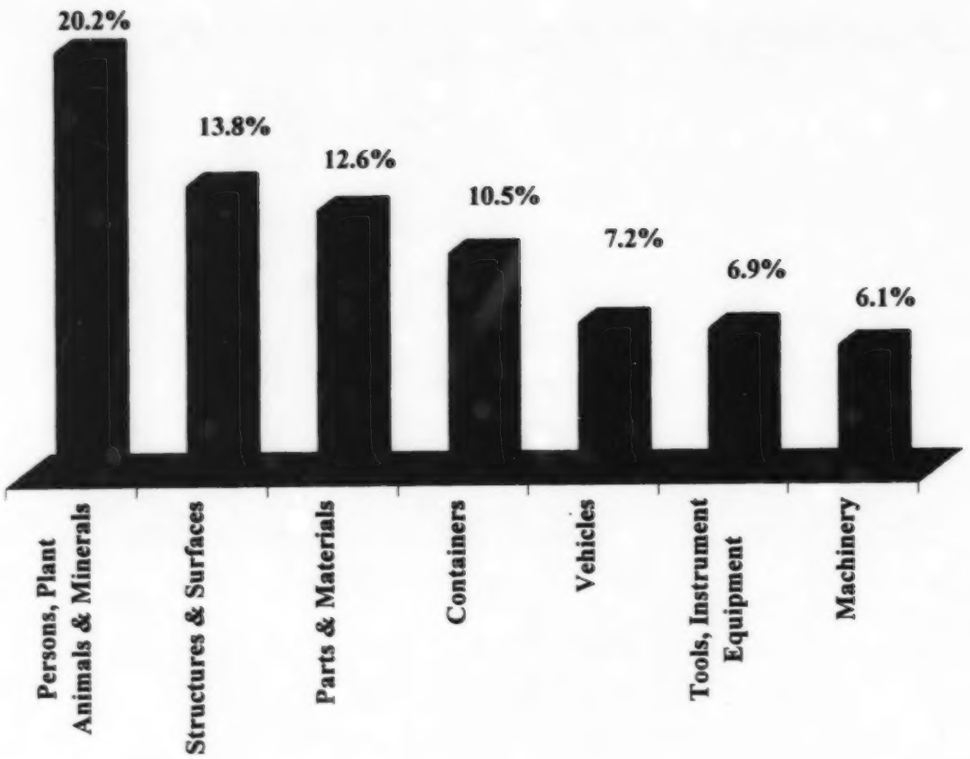
Alberta Human Resources and Employment, Information Services. June , 1999

LOST-TIME CLAIMS BY COMMON TYPE OF EVENT OR EXPOSURE ALBERTA, 1998



Alberta Human Resources and Employment, Information Services. June , 1999

LOST-TIME CLAIMS BY COMMON SOURCE OF INJURY OR DISEASE ALBERTA,1998



Alberta Human Resources and Employment, Information Services. June , 1999

LOST-TIME CLAIMS BY COMMON PART OF BODY INJURED ALBERTA, 1998